RPM-RUSSIA FINAL REPORT

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31 December 1998

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Cooperative Agreement HRN-A-00-92-00059-13
Cooperative Agreement HRN-A-00-95-00002

This publication was made possible through support provided by the US Agency for International Development, under the terms of cooperative agreement number HRN-A-00-92-00059-13 and HRN-A-00-95-00002. The opinions expressed herein are those of the author(s) and do not necessarily reflect the views of the US Agency for International Development.

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I. PROJECT OVERVIEW

A. Project Objectives

The Rational Pharmaceutical Management (RPM)/Russia Project began with add-on funds to the RPM/Worldwide Cooperative Agreement (CA) in 1993. Additional funds, in the form of a separate CA, were provided in 1994 to expand the activities being undertaken through the add-on. The project was implemented collaboratively by two US organizations through two separate cooperative agreements: Management Sciences for Health (MSH), and the United States Pharmacopeial Convention (USP). The MSH component was completed by December 31, 1998, while the USP component end date is September 1999.

The goal, purpose, and technical focus for the RPM-Russia project were as follows:

Goal: To improve the health status of the target population through the empowerment of local capacity to allocate and use financial, human, and informational resources within the health sector.

Purpose: To demonstrate that improvements in access to affordable, quality care can occur through building local capacity in the allocation, use, and management of health sector resources, and enhancing access to, dissemination, and utilization of unbiased drug information.

Technical Areas: The RPM[1] project goal and purpose were to be achieved through work in six technical areas, described below:

- Drug Selection: Drug Formulary Development and Maintenance
- Drug Utilization Review (DUR)
- Drug Procurement: Management of Competitive Procurement/Tendering
- Rational Drug Use
- Management and Economic Viability of Pharmacies
- Establishing Drug Information Services (USP/RPM component)

Strategic Importance: RPM-Russia began work in Russia during the Health Care Improvement Project under the rubric of a pharmaceutical security component, focusing on improving drug availability through rational procurement and inventory management. As drug supply in Russia improved, RPM-Russia's focus shifted to introducing new forms of service delivery.

The US Agency for International Development (USAID) mission has a results framework that includes three strategic goals, one of which applied to RPM-Russia: Strategic Goal 3 (Respond to humanitarian crises and strengthen the capacity to manage the human dimension of the transition to democracy).

[1] Although implemented by two organizations, for the purposes of this report hereafter RPM refers to the MSH component unless otherwise clearly stated.

The RPM-Russia Project supported Strategic Goal 3, which included two Strategic Objectives (SOs) and a number of intermediate results. One was SO 3, PO 3.1 (New and improved cost-effective interventions developed and disseminated). In Russia, RPM developed drug formulary implementation methodologies and training materials that have been widely disseminated and put into practice. Development of drug formularies has resulted in the elimination of unsafe, ineffective, unnecessary, and overly expensive drugs in 61 hospitals in three target oblasts. Drug Utilization Review (DUR) programs underway in oblast hospitals helped to ensure that physicians comply with the established formulary, assist hospital therapeutics committees to assess prescribing and use patterns, and identify opportunities for improvement. Formulary development and DUR manuals developed by RPM have been widely distributed, and are in use throughout Russia and the NIS.

Under SO 3, RPM also supported SO 3.2 (Improved effectiveness of selected social benefits and services). Under SO 3.2, RPM contributed to the achievement of Intermediate Results (IR) 3.2.1 and 3.3.2. Policies, laws, and regulations that improve effectiveness have been approved (IR 3.2.1), and new approaches to service delivery have been adopted (IR 3.3.2).

B. Initial Findings

Needs Assessment: RPM-Russia activities were carried out through the development of a demonstration site in one oblast, with rollout to two additional sites. Two reconnaissance visits, in November 1993 and February 1994, led to the selection of Ryazan Oblast as the demonstration site. The rollout oblasts of Novgorod and Pskov were chosen in April 1995. The field work for the Ryazan pharmaceutical sector assessment was conducted in May 1994, and the Novgorod and Pskov assessments were conducted in November and December 1995.

Key assessment findings were grouped into five distinct areas:

1. Drug selection

Systems did not exist at the health administration or facility levels for rationally selecting drugs for procurement and use in any of the three oblasts. The funds for drug procurement were extremely limited and cost-effectiveness was not considered when selecting drugs. Some drugs used were of unproven quality or efficacy. There had been a significant increase in the number of drug suppliers operating in oblasts and an increase in the number of therapeutic alternatives and drug products available on the market. While many previously unknown drug products had been introduced, decision makers did not have access to unbiased sources of drug information for making rational drug selection decisions. Physician and pharmacist training in clinical pharmacology was also needed to make adequate selection decisions.

2. Drug utilization review

The oblasts had no systems in place for the regular and continuous review of drug prescribing and use. Public health officials and decision makers did not have tools to evaluate if drugs were being used rationally. If problems were detected in drug use, interventions were punitive, resulting in disincentives to collecting information about drug prescribing and use.

3. Drug procurement

Determining drug needs and quantities was done manually and based on historical ordering information without the use of standard formulas. The drug supplier market, on the whole, was very fragmented. Competitive tender practices were not employed and drug purchases were most often made through negotiations with a large number of drug distributors and manufacturers, which led to financial waste. Decision-makers often used information provided by pharmaceutical sales representatives, rather than current objective information, to make procurement decisions. Health facilities and pharmacies reported long delivery times for getting drugs from wholesalers.

4. Rational drug use

Standard Treatment Guidelines (STGs) were present and in use at public health facilities, but were in need of revision. Prescribing was excessive for patients eligible to receive drugs free of charge or at reduced prices, and it was not limited by restrictive drug lists.

5. Community pharmacy management

Delays in reimbursement for exempt prescriptions, as well as punitive tax structures, contributed heavily to the financial difficulties of community pharmacies. Although pharmacy managers may have functioned well under a centralized system, there were significant gaps in knowledge and experience necessary to operative efficiently in a market economy.

C. Challenges Facing RPM-Russia: Constraints Encountered and Program Adjustments

The principal goal for RPM at the regional level was to establish a properly managed rational pharmaceutical system. To achieve that, RPM had to respond to certain challenges:

1. Russian exasperation with being “assessed and studied”

Start-up activities and assessments were initially met with the skepticism of Russian health care providers who felt “over assessed” during the initial years following the collapse of the Soviet Union. The constraint was overcome by RPM-Russia by creating a highly participatory process of assessment tools development and use.

2. Atmosphere of liberalization and freedom after centralized control

The idea of drug formularies was, at first, seen to be in conflict with the atmosphere of freedom of choice that followed centralized control. RPM-Russia spent considerable time discussing the clinical and economic benefits of formularies with Russian counterparts, and enlisted US specialists to make key presentations at early activities.

3. Concerns about motivations behind any US pharmaceutical assistance

Initially, Russians expressed concern that the motivation behind assistance in pharmaceutical reform was to promote the use of drugs produced by US companies. These concerns decreased over time, partially because the RPM-Russia-introduced formulary development process involved drug selection only by generic name.

4. Lack of managerial skills and know-how

The highly centralized drug supply system of the Soviet Union required few managerial skills of local health officials. Even the position of head of oblast health administration did not require any special managerial skills because key decisions were made at the central level. With the dissolution of the Soviet Union and the collapse of centralized procurement, local health authorities faced the challenge of managerial responsibilities and decision making for which they had never been trained. During the course of RPM implementation, special attention was given to training decision makers, and involving them in project implementation.

5. Low prestige and role of the pharmacist in the Russian health care setting

In the Russian health care system, pharmacists have not traditionally played any significant role in the drug selection and use process. At the same time, due to the specifics of Russian medical schools' curricula, physicians had very little knowledge of drugs: they were trained to prescribe a certain drug for a certain condition without clear understanding of the pharmacokinetics and pharmacodynamics of the administered drug. From the very start, the RPM project worked at bridging the gap between physicians and pharmacists through involving both specialties in the development of a formulary system.

6. Different pharmaceutical concepts

Several RPM concepts were new to Russian health providers, and required additional explanation and training. Those concepts included "drug formulary," "drug information," "drug utilization review," and "generic drug name."

The concept of restricting drug use and procurement to a formulary list was initially received with skepticism by Russian counterparts. This decreased with time as the first formulary list was developed at the demonstration site, where it proved to reduce drug expenditures and improve clinical outcomes. With the establishment of drug information centers (the USP component), the very notion of drug information utilization also changed from "information on drug availability at pharmacies" to "drug information as a means of making educated selection decisions."

In the former Soviet Union, most drugs came from domestic or Eastern Bloc manufacturers, and were marketed only under brand names. In 1991-1992 the Russian market was opened to foreign drugs, and Russian health providers were seldom able to identify generically similar brand name products as same drugs. This lead to utilization of duplicative drugs in hospitals, resulting in financial waste. The approach to drug selection by generic name, introduced by RPM, eliminated duplication and reallocated funds to purchases of essential drugs. While the problem with unjustified inclusion of brand names into hospital formularies still persists, the majority of drugs in oblast formularies appear under generic names.

7. Political situation

Among the biggest challenges for RPM-Russia were the unstable political situation in RPM oblasts and changes in the Ministry of Health. The project started its activities in Russia when democratic forces were in power in the RPM oblasts. During the course of the RPM project, each oblast set its own implementation pace. Ryazan Oblast concentrated on reforming one pilot site first, and then moved to introducing changes to its public health system. Reforms in Novgorod Oblast were very fast due to the strong political will of the head of health administration and the Governor, which allowed the oblast to pass comprehensive health and drug laws and establish a rationally managed centralized health system. In Pskov Oblast, the 1996 elections brought to power the Liberal-Democratic party, known for its traditional negative attitude to foreign aid and international projects. Although RPM continued work in Pskov during 1997-1998, many legislative initiatives of the previous administration were not adopted, considerably slowing down the overall pace of health reforms.

8. The economic situation

The economic situation in RPM oblasts and in Russia in general did not improve during the life of the project, and drug budgets steadily decreased. In Ryazan, for example, the overall annual per capita drug expenditures went down from $8.41 in 1994 to $4.50 in 1997. In Novgorod Oblast these went from $4.70 in 1995 to $3.90 in 1997. It should be noted, though, that due to RPM reforms conducted in these oblasts, even small drug budgets allow health administrations to provide the necessary minimum of formulary drugs to health facilities.[2]

D. Implementation Strategy

The RPM-Russia implementation strategy was developed on the basis of the assessment findings, local challenges and situations, and building stakeholders at each level of the project. The following strategy was believed to be successful in establishing sustainable pharmaceutical systems in RPM sites:

1. Combination of national and state approaches
2. Creation of stakeholders
3. Study tours to the US
4. Development of demonstration sites
5. Training of Russian counterparts
6. Russian RPM-trained experts as technical assistance (TA) providers
7. Tools development
8. Information dissemination
9. Collaboration with international organizations
10. Collaboration with educational institutions
11. Fostering cooperation between Russian oblasts
12. Limited provision of equipment
13. Development of MSH/RPM-Russia Moscow office

[2] See, for example, the RPM report *Availability and Procurement Methods of First-Line Tuberculosis Drugs in Novgorod, Pskov, Ryazan, and Yaroslavl Oblasts* (October 1998; results from study commissioned by USAID/Moscow).

The key activities of RPM-Russia are listed by modes of implementation in Annex 1.

II. MSH/RPM-RUSSIA PROJECT IMPLEMENTATION

A. Combination of National and State Approaches

The non-profit sector has only recently begun to develop in Russia. Therefore, when RPM-Russia began its activities, most efforts were spent on developing relationships with government organizations at both the national and regional levels. These included the Ministry of Health (MOH) organizations, oblast health administrations, and medical universities. Although the project was designed to work at the regional level in Russia, considerable effort was made to capacitate a national-level organization to serve as a medium between RPM and Russian regions and thus ensure the sustainability of reforms after the project finished its activities in the country.

One such important collaborative relationship at the national level was developed with the Ministry of Health Russian Center for Pharmaceutical and Medical-Technical Information (Pharmedinfo). Pharmedinfo was formally designated as RPM's official collaborating organization by the MOH, and very soon became the major link between RPM and Russian health officials at all levels.

To empower Pharmedinfo and enhance its role in pharmaceutical sector reforms in Russia, RPM involved Pharmedinfo staff in every stage of project implementation. Pharmedinfo made considerable input in adapting RPM-developed indicator-based assessment tools, conducting assessments of pharmaceutical sector in RPM oblasts, and producing assessment reports. Pharmedinfo provided speakers at RPM workshops and maintained links with health officials in the oblasts and MOH.

In 1995, Pharmedinfo signed an agreement with the USP that allowed it to translate, adapt, and disseminate the USP drug information database in Russia. The agreement made it possible for RPM to assist oblasts in developing and producing Russian oblast formulary manuals.

Due to the continuous efforts of RPM and Pharmedinfo to promote rational drug use ideas in Russia, and impressive results achieved in three pilot oblasts, the MOH decided in 1998 to commence work on a Russian National Drug Formulary. Pharmedinfo was nominated by the MOH to head this national project.

At the state level, RPM invested considerable efforts in promoting both top-down and bottom-up activities. In the traditional Soviet system, the grass root-levels of public health were never part of the decision-making process. At the time of RPM interventions, this system was in disaccord with the evolving democratic relations in the country. The challenge for RPM was to empower all levels of the public health system by involving them in a collaborative process of developing new health management structures. One mechanism for establishing collaboration and dialog between oblast health administrations and health practitioners was involving both parties in formulary system development. As will be shown in the following sections, oblast formulary committees became democratic decision-making bodies where top and bottom levels met.

B. Creation of Stakeholders

The MSH RPM-Russia Project was a unique activity that addressed critical problems in the Russian pharmaceutical sector through a highly participatory process at the local decision-making level.

RPM start-up activities were initially met with skepticism. Russian health care providers felt “over-assessed and helped” by various international donors during the initial years following the collapse of the Soviet Union. To overcome the skepticism, RPM-Russia gave special attention to ensure that the implementation process was "owned" by local decision makers and health providers, and not forcibly imposed on them from the outside.

To achieve this, and to create strong stakeholders, at every stage of the project RPM-Russia used the following effective approaches:

1. Pharmaceutical sector assessments

At the initial stage of project implementation RPM worked in close cooperation with all interested parties. Assessment tools were adapted to the Russian environment with the help of central-level consultants from Pharmedinfo, but mostly by Ryazan Oblast public health decision makers. By involving Russian specialists in this activity, RPM provided informal training in conducting indicator-based assessments, imparting to them the necessary managerial skills and an understanding of the assessment process. By the time of the assessment, Ryazan health officials were already strong supporters of RPM initiatives. The support of the Ryazan Oblast Governor resulted in a very high quality data collection process, because it was possible to have highly qualified pharmacists and university associates as data collectors.

2. Data analysis and report writing

Assessment data was computer-analyzed and worked into a draft report by RPM specialists in Washington. The draft report was then extensively revised by two teams of Russian experts who were invited to the MSH office in Washington. The first team consisted of national-level experts, with Pharmedinfo playing the leading role. The second team was composed of Ryazan officials and experts, including the Ryazan Oblast Lieutenant Governor, Head of Oblast Health Administration (OHA), Chief Physician of the pilot Ryazan Oblast Hospital, head of Pharmaceutical Department of OHA, and representatives of drug information and procurement bodies. Involvement of those key players resulted in a comprehensive assessment report fully endorsed by Russian counterparts.

3. Problem identification

A key outcome of the assessment activities was problem identification in the oblast-level pharmaceutical sector, made by Russian experts according to local setting of priorities.

4. Presentation of findings and policy options analysis

Presentations of the assessment findings and possible interventions were done by Russian national and oblast-level experts at Policy Options Workshops. Pharmaceutical sector problems were identified and discussed by approximately 100 Russian specialists.

5. Work plan creation

The principal achievement of involvement of Russian experts at the early stage of RPM implementation was the final definition of RPM technical areas for Russia, and the development of a realistic RPM work plan. At the Ryazan Policy Options Workshop, the OHA requested specific types of RPM assistance in drug selection/formulary development, procurement/tender management, rational drug use, drug use utilization program implementation, development of local sources of drug information, and community pharmacy management. The implementation plan was endorsed by the Governor of Ryazan Oblast, which helped ensure the work plan's fulfillment.

6. Roll-out to other oblasts

Due to the fast progress and success of RPM in the initial pilot site, roll-out to Novgorod and Pskov Oblasts in 1995 was greeted by recipients with enthusiasm. In fact, officials and specialists in both oblasts readily recognized the need for drug formulary systems. Enthusiasm was so great that RPM technical activities started even before the pharmaceutical sector assessment was completed and the work plan for the roll-out oblasts finalized. In both oblasts, the RPM activities and work plan were endorsed by the Governors.

7. Man and Drugs Congress presentations

RPM-Russia participated in four annual Russian National Man and Drugs Congresses, conducting symposia and roundtable sessions. The sessions at the last three Congresses focused on project accomplishments and most presentations were made by local officials and specialists. Because the rational drug use implementation approaches taken by the leaders of the three RPM oblasts were slightly different, actively involving oblast specialists in the presentation of the results gave the audience a chance to consider and discuss the variety of locally tailored RPM options. Presentations by local specialists put RPM oblasts in the center of pharmaceutical reforms in Russia.

C. Study Tours to the US

Another approach to stakeholder building that proved very effective was study tours to the US. Study tours allowed Russian decision makers to see how the health system changes they were working on together with RPM actually worked in another country. RPM conducted three study tours:

- Ryazan Oblast officials participated in a Health System Overview Study Tour to Texas in June 1995. The ideas gained from this experience contributed to the creation of a reformed system of providing prescription services to exempt patients in the oblast. Visits to hospitals reinforced the importance of drug formularies and accelerated this process at the Oblast Hospital. Exposure to US buying groups accelerated the formation of the oblast tender committee.

- Seven Ryazan and Novgorod officials received advanced training in formulary development, Drug Utilization Review (DUR), use of drug information databases, and desktop publishing during a US Study Tour to the University of Arizona and Washington D.C. in October 1995. The tour facilitated rapid reforms in Novgorod Oblast health system, including the development of oblast drug legislation based on formulary system principles, enhancement of the role of the USP-established Drug Information Centers, and acceptance of DUR as part of the drug selection process.

- Eleven health professionals from RPM oblasts and Moscow participated in a Community Pharmacy Management Study Tour to Michigan from August 10-24, 1996. The purpose of the study tour was to give participants first hand exposure to established and innovative pharmacy management practices studied during the previous two and one-half years of RPM community management activities. They also studied several pharmacy curricula and the role of a pharmacy association in professional, political, and economic spheres. Upon their return to Russia, participants shared first-hand knowledge of the US pharmaceutical system with their colleagues as trainers in local pharmacy management workshops.

D. Development of Demonstration Sites

For the success and replicability of RPM-Russia, the choice of the demonstration site as the starting point for project dissemination throughout Russia was very important. Given the large size of the country, it was initially decided that the RPM project begin by working in one Russian oblast, an administrative unit corresponding most closely to a US state, with the roll-out to two additional territories.

Selection Criteria: Project sites were chosen using established criteria, after extensive discussion between RPM project staff, USAID/Moscow, USAID/Washington, MOH, Pharmedinfo, and local consultants. In the case of the pilot site, RPM wanted to work in an oblast that met the following criteria:

- Interest on the part of local officials and specialists in implementing pharmaceutical sector reforms
- Policies that support the introduction of competitive procurement techniques
- Logistics feasibility for bringing high level US consultants to the site
- Presence of medical and pharmacy schools
- Representative of a typical Russian oblast
- Interest in serving as a model for other oblasts as the project expanded

After two reconnaissance visits to Russia, including visits to Saint Petersburg, Perm, Ryazan, and Kaluga Oblasts, Ryazan Oblast was selected as a demonstration site in 1994. Selection of Ryazan Oblast as a pilot site was a joint decision of MOH, RPM, Pharmedinfo, and Ryazan Oblast Health Administration (OHA). In 1995, with the awarding of the MSH RPM-Russia CA, the project was able to roll-out to two additional oblasts, Novgorod and Pskov, and start disseminating information throughout Russia and NIS.

Demonstration Sites: The RPM implementation strategy focused on local capacity building and not on imposing RPM principles. By the end of the project in 1998, RPM had developed several demonstration sites, each with distinctive characteristics and strengths due to differences in local conditions and health decision makers' visions:

- **Ryazan Oblast**:
  (1) RPM pioneered drug selection activities at the 1,100-bed Ryazan Oblast Clinical Hospital and developed and published Russia's first Hospital Formulary Manual.
  (2) The Ryazan Drug Information Center established at the Ryazan Oblast Clinical Hospital is a model of expertise in hospital formulary development. During 1995-1997, the Drug Information Center assisted in the development and revision of formulary lists of 18 oblast hospitals.

(3) The Ryazan State Medical University Drug Information Center, which was also established within the RPM implementation framework, introduced model changes to under- and postgraduate medical curricula to incorporate the notions of cost-effective drug selection, drug utilization review, rational drug use, and drug information development. It also conducted numerous continuing education programs for local and visiting physicians and pharmacists.
(4) Community pharmacies in Ryazan Oblast are an example of the successful implementation of business turnaround plans that ensure pharmacy viability.

- **Novgorod Oblast**:
  (1) As a result of RPM Study Tours and the Policy Options Workshop, the oblast focused on developing policies and procedures for a full scale regional formulary system. By May 1998, a package of laws and regulations was passed, including a comprehensive Law on Drugs. Due to its leading role in drug legislation development in Russia, Novgorod Oblast was also designated to be the Russian Federation Ministry of Health Demonstration Site.
  (2) Of the three RPM oblasts, Novgorod is the best replicable model of centralized (at the oblast level) competitive drug procurement for public health.
  (3) The RPM-established Drug Information Center has a different role in Novgorod than in Ryazan or Pskov, by serving the Health Administration in managing the oblast formulary system.

- **Pskov Oblast**: Other RPM oblasts started the drug formulary development process with the assumption that all drugs currently in use were the initial formulary, subject to revision. However, Pskov Oblast started this process by first revising their standard treatment guidelines, and then building the drug formulary list from scratch by therapeutic categories.

The RPM demonstration sites provide free technical training to all interested specialists from Russian regions.

E. Training of Russian Counterparts

Training was an important component of the RPM implementation strategy. Many of the RPM-introduced activities, such as cost-effective drug selection, drug formulary management, and drug utilization review, were not previously known in Russia. Thus, RPM designed and conducted a series of training sessions and workshops to address the training needs at every level of project implementation. Training was provided in various ways:

1. On-site training by visiting experts

Formulary development began at Ryazan Oblast Clinical Hospital through direct technical assistance by RPM/Washington experts. Direct technical assistance was combined with ad hoc training sessions as needs emerged. This approach gave RPM the opportunity to rapidly identify training needs, and develop appropriate educational materials and formal training courses.

2. Workshops

Formal training was tailored to the needs of Russian counterparts, and consisted of workshops on (1) cost-effective drug selection/formulary development, (2) drug utilization review, (3) rational drug use, (4) community pharmacy management, and (5) drug information development and maintenance.

3. Specialized training

At the early stage of the project it became clear that Russian physicians lacked training in clinical pharmacology and thus were unable to approach the drug comparison and selection process scientifically. However, though clinical pharmacology is a relatively new science in Russia, Russian medical universities have already built a strong training capacity of their own. RPM, in collaboration with the Russian State Medical University in Moscow, trained approximately 150 physicians from Novgorod and Pskov so that they could take the lead in drug selection activities in their hospitals.

For full list of RPM training activities see Annex 1.

F. Russian RPM-Trained Experts as TA Providers

The RPM implementation strategy was aimed at building a strong local training capacity. To this end RPM established a team of Russian experts capable of providing training in rational drug use issues to Russian regions and specialists interested in implementing RPM-style pharmaceutical sector reforms.

To ensure the sustainability of the RPM project, educational functions and TA to non-RPM regions were delegated to Drug Information Centers (DICs). Currently, ten DICs are operational in providing both on-site and academic training in formulary system implementation issues throughout Russia.

Ryazan State Medical University Educational Information Center: The Ryazan Medical University proved to be a good partner for reaching the educational objectives of the RPM project. The university employs highly qualified faculty members and has access to a broad audience of health providers. The university has 11 teaching departments for students, and a Department of Post-Graduate Education for physicians and pharmacists.

Ryazan State Medical University actively disseminates RPM materials throughout Russia. Training in RPM concepts was provided to more than 220 health specialists from Perm, Ekaterinburg, Tula, Kurgan, Chelyabinsk, Magnitogorsk, and other cities.

Direct technical assistance was provided by the university faculty to Ryazan oblast health facilities that joined the project in 1996-1997.

RPM-Russia consultants: In the course of implementation, RPM trained and involved several consultants from the Russian State Medical University, Friendship University Medical School, and Saint Petersburg Medical University. These specialists provided direct technical assistance to oblast formulary committees by revising oblast formulary lists and working directly with health facilities on drug use evaluation programs.

Oblast Drug Information Centers: Oblast DICs provided training to oblast prescribers on-site. The Ryazan DIC focused its activities not only on providing assistance to oblast hospitals on formulary development, but also worked with individual health providers from the Ryazan Oblast Clinical Hospital, the Ryazan Oblast Children's Hospital, and physicians and pharmacists from rayons. In 1997, the Ryazan

DIC conducted two seminars on drug selection and clinical pharmacology. It also trained specialists from Lukhovicki Rayon Hospital of the Moscow Region in drug information and the principles of formulary system implementation.

In Novgorod, the DIC conducted two seminars on drug procurement issues and several seminars on rational drug use of antimicrobials. The DIC was also responsible for monitoring drug utilization review programs in the Novgorod Oblast Hospital. Special attention was given to DUR of gentamycin, cefazolin, aminophylline, and ranitidine. The DUR results were presented at a physicians conference and an Oblast Formulary Committee meeting. Educational interventions were undertaken to ensure that the antibiotics are used properly. The Novgorod DIC also developed educational information newsletters on drug-food interactions, drug-drug interactions, and antimicrobial resistance.

G. RPM Tools Development

RPM-Russia developed a number of tools in the Russian language, tailored to the needs of Russian counterparts. In many cases Russian experts were widely involved in tools development and adaptation. Those tools were:

- The MSH *1993-1994 International Drug Price Indicator Guide* was translated into Russian and distributed to every Russian oblast.

- Existing MSH pharmaceutical management training materials, including the *Managing Drug Supply* training series, have been adapted and translated into Russian, and subsequently used in numerous training activities.

- New training materials were developed on drug procurement, community pharmacy management, formulary development, drug utilization review, and rational prescribing.

- RPM-Russia adapted and translated into Russian the MSH pharmaceutical sector assessment manual *Rapid Pharmaceutical Management Assessment: An Indicator-Based Approach.*

- RPM developed tailored and structured assessment tools for each of the three oblasts in which the project worked.

- Based on experience gained in Ryazan, RPM-Russia created the *Manual for the Development and Maintenance of Hospital Drug Formularies*. The manual is geared toward hospital administrators and operational-level personnel, to enable them to understand the goals of formulary systems and the steps involved in implementation and maintenance.

- As a companion volume to the *Manual for the Development and Maintenance of Hospital Drug Formularies*, RPM-Russia wrote *Guidelines for Implementing Drug Utilization Review Programs in Russian Hospitals*.

- In cooperation with the World Health Organization (WHO), RPM-Russia adapted and translated the *WHO Guide to Good Prescribing* into Russian.

- As a result of community pharmacy management training activities, RPM-Russia wrote a draft *Community Pharmacy Management Manual*.

- RPM-Russia designed a tool for collecting financial information to perform financial analysis of retail pharmacies.

- INVEC-2, the MSH inventory management software program, was translated for use in Russia.

- Russian/English language formulary computer software (*Formular)* was developed and used at the Ryazan Oblast Clinical Hospital.

H. RPM Information Dissemination

Russia is made up of almost one hundred oblasts and the three RPM oblasts comprise only a very small part of it. Thus the project constantly looked for opportunities to reach a broader audience. Russian health care providers were exposed to rational pharmaceutical management concepts through a variety of dissemination activities and informational products, including:

- Newspaper articles in local papers in all three RPM oblasts
- Magazine articles in the nationally distributed *Pharmacia Journal*
- Articles in the *Pharmaceutical Gazette*
- An article in *Chief Physician Magazine*
- RPM-Russia appearances on Russian television programs in Ryazan and Novgorod
- Radio interviews
- A televised press conference in Ryazan

The annual Russian National Man and Drugs Congresses were an excellent venue for the dissemination of RPM-developed materials, including *Manual for the Development and Maintenance of Hospital Drug Formularies*, and *Guidelines for Implementing Drug Utilization Review Programs in Russian Hospitals.* At the Congresses in 1996, 1997, and 1998 more than 500 copies of each manual were distributed among the participants.

The Internet has also proved to be an effective means of information dissemination. Because demand for manuals exceeded RPM's capacity to print copies, the electronic version of the formulary package was placed on the MOH Web Page. As a result, RPM received inquiries and requests for assistance from other Russia oblasts, mainly from Russian medical schools that had access to the Web. Among them were such celebrated institutions as the Moscow Medical Academy, Volgograd Medical Academy, Stavropol Medical University, Tomsk Institute of Cardiology, and many others.

An article on the formulary development activity was published by the *Journal of the American Society of Health-System Pharmacists*, and a paper on formulary development was accepted for presentation at the 1997 National Council for International Health (NCIH) Conference on Building Strategic Alliances for Global Health.

RPM-Russia's *Manual for the Development and Maintenance of Hospital Drug Formularies* was included on a CD ROM disk containing Russian-language health sector reference materials produced by the Abt Associates Zdrav*Reform* Project.

The RPM collaborative activities with other organizations discussed below also had strong RPM information dissemination components.

Annex 2 provides a list of publications on RPM issues in Russia.

I. Collaboration with USAID-Funded Organizations and International Donors

RPM collaborated with other USAID-funded projects and international organizations working in the health sector in Russia. RPM materials were disseminated at major meetings held by those organizations:

- RPM collaborated with the USP component of the project throughout the project's duration in Russia. The USP technical experts participated in all major workshops conducted in Russia by RPM/MSH, including two joint symposia at Man and Drug Congresses in 1995 and 1996. RPM also participated in the USP-organized practical conference, Drug Information for Health Care Professionals, in June 1997 with a workshop on formulary development and DUR. Training was provided for 110 participants from different Russian regions and most NIS countries.

- Two courses entitled "Issues in Pharmaceutical Policy and Management" were conducted by MSH with USAID funds provided through Partners for International Education and Training (PIET). Forty-three participants from Russia and the Central Asian Republics attended the courses, with heavy involvement of RPM-Russia staff members. Russian language training materials were developed. RPM-Russia gained experience in working with Russian health officials, and learned about the status of the pharmaceutical sector.

- MSH and Howard University collaborated on three pharmaceutical courses during 1994 with funds provided by the Academy for Educational Development (AED):
    - Drug Information and Use
    - Health Care Delivery and Pharmaceuticals: Private Sector Management
    - Health Care Delivery and Pharmaceuticals: Private Sector Management II

- MSH conducted a follow-on "Pharmaceutical Sector Management and Training Workshop" for AED in Ryazan Oblast in May 1995 for 35 participants from these US courses, and 14 additional participants selected by RPM-Russia. AED also provided funds for ten participants to attend the Ryazan DUR Workshop in 1996.

- Howard University and MSH conducted a "Pharmaceutical Sector Management Training Program" for eight participants from RPM-Russia oblasts and Moscow in July 1996.

- RPM-Russia and the Abt Associates' Zdrav*Reform* Project have collaborated on a number of activities:

    - RPM-Russia conducted a session at a national conference on "Health Reform in Russia: Experience of Russian-American Cooperation" organized by Abt. Abt sponsored the attendance of several RPM-Russia participants.
    - Abt sponsored the attendance of participants from four Zdrav*Reform* oblasts at RPM-Russia's "Formulary Development Workshop."

- RPM-Russia collaborated with the American International Health Alliance (AIHA) Hospital Partnership Project, and disseminated RPM materials:

    * RPM-Russia made a presentation on drug selection at the AIHA Partnership Conference for the NIS in Des Moines, Iowa.
    * Interest generated at the conference resulted in a joint workshop on formulary system development for 21 participants from partnership hospitals in Russia, Georgia, and Armenia. RPM-Russia was responsible for the technical content of the conference.

- The WHO worked in the NIS with funds provided by the UK Know-How Fund and USAID. RPM-Russia collaborated with WHO in the area of rational prescribing:

    * RPM-Russia worked with WHO to adapt the WHO *Guide to Good Prescribing* for use in Russia. The Guide was one of the manuals reproduced with funds provided by Abt Associates for wide dissemination.
    * RPM-Russia and WHO conducted a workshop on "Integration of Rational Prescribing Practice in Medical Undergraduate Curricula in the NIS," based on the *Guide to Good Prescribing*.

J. Collaboration with Russian Educational Institutions

An important component of the RPM-Russia strategy was to foster collaboration with Russian educational institutions. By involving medical universities in RPM activities, the project reached both the goal of material dissemination to a large audience of medical students and health care providers, and of training university experts to provide technical assistance on RPM issues.

The most productive relationship was established with the Ryazan State Medical University. The University introduced changes to the under- and postgraduate curricula to incorporate the concepts of cost-effective drug selection, rational prescribing, drug utilization review, and drug information development. The university also developed RPM-based training materials for advanced education, and provided training in RPM methodology to more than 220 health specialists from Perm, Ekaterinburg, Tula, Kurgan, Chelyabinsk, Magnitogorsk, and many other regions of Russia.

Other collaborating medical educational institutions included the following:

- **The Saint Petersburg Chemical-Pharmaceutical Institute** established a training center in rational pharmaceutical management using RPM materials. Several dissertations on formulary development were written and defended under the supervision of the institute professors.

- **The Russian Academy of Advanced Medical Training** hosted and provided speakers for an RPM workshop on formulary development in 1996, and included lectures on formulary systems in the curricula for postgraduate students.

- **Russian State Medical University** (Moscow) faculty members were involved in RPM implementation during the early stages, and gained experience in RPM technical areas through direct observation of

RPM experts. The university faculty later provided specialized training to RPM oblast physicians and pharmacists in clinical pharmacology and rational selection of drugs.

- **The Saint Petersburg State Medical University** developed and implemented a formulary system in the university clinic. This work was conducted without direct RPM participation, but was based on the RPM *Manual for the Development and Maintenance of Hospital Drug Formularies.* The experience gained by the university staff during this process allowed RPM to involve university experts in providing direct technical assistance to RPM oblasts. The university staff provided significant input in revising oblast formulary lists in both Novgorod and Pskov Oblasts. Three members of the university faculty were extensively involved in RPM workshops and presentations in oblasts during 1997-1998, as well as during the two last Man and Drugs Congresses.

K. Fostering Cooperation between Russian Oblasts

The last important strategic step for RPM was to establish ongoing cooperation between RPM sites in the three oblasts and collaborating institutions from non-RPM regions of Russia. RPM faced the challenge of overcoming the traditional "separatist" tendencies in oblasts, and the bias of regional health authorities against communicating with each other. In the former USSR, health system regional health administrations reported to the MOH, and were not encouraged, nor had any incentive, to work collaboratively.

To tackle this problem, RPM used both traditional vertical links of regions with the center, and established new means of cooperation. The following approaches were used:

- **Pharmedinfo** acquired the role of a central linking body between regional health administrations. Pharmedinfo staff were trained by RPM, and developed expertise in new pharmaceutical management methods by working side by side with RPM experts. As the organizer of the Russian National Man and Drugs Congresses, Pharmedinfo coordinated oblast participation and presentations. Pharmedinfo was also a prime collaborator of the USP/RPM component, and coordinated work in oblasts on drug information development and the production of formulary manuals.

- **DICs** provided opportunities for less formal "horizontal" communication between oblasts at the level of health facilities and health care providers. Being connected with each other via the Internet, DICs have easy access to each other's experience in pharmaceutical management and drug information databases, and willingly share information.

- **High Level Technical Meetings.** One successful way to establish cooperation between RPM sites was to physically bring together oblast experts from all levels to share the RPM implementation experience. This was done in early 1997 through a workshop entitled "High Level Technical Meeting." The agenda for the workshop was developed together with interested parties and covered the relevant issues of pharmaceutical management that oblasts faced. Although RPM/Washington experts attended the workshop, the discussion was mainly among oblast health providers, who successfully found answers to their own questions during the workshop discussions. The immediate result of the workshop was the planning of a series of trips oblast specialists made to each other to learn from each other on-site.

L. Limited Provision of Equipment

The RPM-Russia project was not designed with an emphasis on equipment provision to Russian counterparts to achieve the project goals. However, a limited amount of equipment was provided to pilot sites at the initial stages of project implementation. The following was provided to the RPM collaborators:

- The Ryazan Oblast Clinical Hospital, which pioneered formulary drug selection activities in Russia, received a computer and a printer. The equipment was utilized to develop *Formular* software, and establish hospital formulary system maintenance programs. The Hospital Drug Formulary Manual was developed and prepared for printing on the equipment provided through RPM. The hospital computer specialist used the computer to develop hospital drug inventory management software and to regularly perform ABC/VEN analysis.

- The Ryazan Medical University received a computer, printer, and overhead projector. It used the equipment for RPM-based educational and practical activities, including assistance in the development of Ryazan Oblast Clinical Hospital formulary manual, and the development and use of educational programs for under- and postgraduate students.

- In preparation for competitive drug procurement activities, the Pskov Oblast Pharmacia received a computer and printer. While the RPM technical assistance in drug procurement to Pskov Oblast did not take place due to changes in the RPM work plan and priorities, the equipment was used by the Pharmacia to improve its inventory management.

- After the RPM-Russia Moscow office moved from its original location to Pharmedinfo, its equipment was shared with Pharmedinfo staff. The staff used it to assist RPM to conduct two TB studies in Russian hospitals, and to prepare materials and presentations for the Fifth Annual Russian National Man and Drug Congress.

In December 1998, the RPM-Russia project, following the USAID regulations on property disposition, acquired permission to transfer the equipment purchased for Russia activities to its Russian counterparts. The inventory and recipients list can be found in Annex 3.

M. Development of MSH/RPM-Russia Moscow Office

In July 1995, the MSH/RPM-Russia Moscow office was established. The office was staffed with a full-time MSH employee and three outside service providers: an office manager, and two physicians.

The Moscow office not only facilitated RPM management and logistics, but also served as a base for providing direct technical assistance and training to RPM oblasts. The specialists assisted oblasts in finalizing and producing their formulary lists and formulary manuals, and helped start drug utilization programs in selected hospitals.

The Moscow office facilitated communications with other USAID-funded and international projects in Russia that resulted in joint activities with the Abt Zdrav*Reform* project, AIHA, and WHO.

III. MSH/RPM-RUSSIA IMPACTS AND ACCOMPLISHMENTS

The MSH/RPM project goal and purpose in Russia were achieved through work in five technical areas, described below:

- Drug Selection: Drug Formulary Development and Maintenance
- Drug Utilization Review (DUR)
- Drug Procurement: Management of Competitive Procurement/Tendering
- Rational Drug Use
- Management and Economic Viability of Pharmacies

In the fall of 1997, RPM conducted a project impact study in Ryazan, Novgorod, and Pskov Oblasts, with an emphasis on formulary system development, DUR implementation, and drug procurement. The objective of the study was to assess the applicability and effectiveness of the above described implementation strategy, methodology, and tools, particularly in terms of the project's sustainability.

Data were collected from oblast health administrations and 32 major oblast health facilities. The survey instruments were built around two RPM manuals: *Manual for the Development and Maintenance of Hospital Drug Formularies*, and *Guidelines for Implementing Drug Utilization Review Programs in Russian Hospitals*. Both manuals offered Russian specialists a step-by-step approach to the implementation of formulary systems in oblasts and health facilities.

The evaluation tools were designed with the assumption that compliance of Russian counterparts with the recommended methods would result in rationalizing drug management, selection, and use. This, in turn, would contribute to the establishment of rational, market-driven, and clinically oriented pharmaceutical systems.

The major survey results are briefly summarized below.

A. Drug Selection: Drug Formulary Development and Maintenance

1. The formulary system was institutionalized in the Oblasts

The formulary system became a part of all three oblast's health development plans, which were formally approved by local governments. Formulary committees were established in 61 hospitals and in all three oblast health administrations. Written policies and procedures regulating drug selection and use were developed and approved by hospital and oblast health administrations.

A model of legislative reform related to rational drug management was developed in Novgorod. Drug management and rational use activities are outlined in the oblast law, “On the Legal and Organizational Basis of the Oblast Health System.” Competitive procurement is codified in the oblast decree “On State Guarantees on Drug and Medical Supplies Procurement.”

2. Drug selection/formulary development was performed according to standard procedures

All surveyed hospitals followed the step-by-step methodology for selecting drugs recommended by RPM in the *Manual for the Development and Maintenance of Hospital Drug Formularies*. Printed versions of the manual were widely disseminated in Russian, and an electronic version was made available on the Internet.

3. Formulary implementation resulted in drug selection based on cost, safety, and efficacy

By the fall of 1997, 61 formulary drug lists were developed in the three oblasts. The survey of 32 selected hospitals showed that, through the process of formulary system development, the number of drugs used in all the hospitals was reduced by an average of 34%. The majority of drugs were deleted from formulary lists because they were determined to be of low efficacy. The second most frequent reason for deletion was unproven safety, followed by high cost and lack of availability from suppliers. In 24 (75%) hospitals, not only the cost of a drug, but also the cost of course of treatment was calculated and taken into consideration.

It is important to note that, given the still-diminishing health care budget in the majority of Russian oblasts, it is not reasonable to think in terms of overall expenditure reductions for drug products. However, it is possible to evaluate impact in terms of maintaining a consistent supply of cost-effective products, and reallocating scarce resources toward essential drug purchases. Financial data obtained from several hospitals show that significant sums were reallocated for the procurement of selected essential drugs.

Another effective mechanism for enhancing the rational use of drugs implemented in the three oblasts was setting prescribing restrictions of selected products to specific departments or specialists. In 38% of hospitals, prescribing restrictions were introduced for products with high drug costs, narrow therapeutic index, potential for significant adverse reactions, complex administration regimens, and need for special monitoring.

4. Aspects of a comprehensive formulary system were established in oblast facilities

Drug information systems were developed and implemented in all three oblasts to provide reliable, current, and unbiased information to prescribers. Mechanisms were established to make this information available at any time. Between 1995 and 1997, six DICs were established, two in each of the RPM oblasts. These centers were equipped with computers, Internet access, and printers. They were also provided with comprehensive drug information sources in both paper and electronic formats, and RPM assisted oblasts in developing their own reliable local drug information sources. In April 1997, Ryazan Oblast Clinical Hospital published the first Russian hospital formulary manual, which is currently being used by 59% of the surveyed hospitals. The Novgorod formulary manual was printed in May 1998, and the Pskov Oblast formulary manual was published in November 1998.

Oblast DICs are active in providing drug information to prescribers, reviewing hospital formulary lists, and participating in formulary system development at the Oblast level. The Ryazan Educational Information Center, located at Ryazan Medical University, is active in promoting the RPM methodology through its medical school curricula for students and post-graduate continuing education programs.

Mechanisms for updating formulary lists have been developed in all the hospitals that were surveyed. The principal changes to-date are the deletion of less efficacious and unsafe drugs, and the addition of drugs of proven efficacy and safety. In some cases, inclusion or deletion from the formulary was based on drug cost. Nearly 20% of drugs were deleted because they were not readily available from suppliers or because they were no longer manufactured.

Although RPM activities in the oblasts did not specifically target the development or revision of standard treatment guidelines (STGs), formulary implementation resulted in the development of new STGs, or the review of existing STGs, in a number of hospitals. The introduction of new STGs led to the deletion of drugs by formulary committees. However, formulary lists in 75% of hospitals were drafted in compliance with existing STGs, while STGs were modified in 15% of hospitals during the course of formulary implementation.

The formulary system development process also calls for establishing adverse drug reaction (ADR) monitoring systems by health facilities. RPM did not provide direct technical assistance or training in development of such systems, although their importance was continuously emphasized in the *Manual for the Development and Maintenance of Hospital Drug Formularies* and at RPM workshops. An ADR monitoring program is fully functional in only one hospital, although ADR reporting forms were developed in three hospitals. A number of hospitals are attempting to establish an ADR reporting system. Six of them have completed tables on adverse drug reactions reported in the past 6 months. Other hospitals indicate a lack of data on ADRs, or that no ADRs had taken place in the previous six months.

DICs and collaborating medical universities have also been involved in educational activities. They are active in providing on-site and academic training in formulary system implementation issues. The most comprehensive changes were made at the Ryazan Medical University to the standard curricula for medical students and postgraduates. The university adapted RPM materials for use in courses. During 1996 and 1997, it provided training for about 2,150 third and fourth year medical students, and more than 220 health specialists from other cities, including Perm, Ekaterinburg, Tula, Kurgan, Chelyabinsk, and Magnitogorsk.

B. Drug Utilization Review (DUR)

DUR is a continuous review process used primarily as a means to detect irrational, inappropriate, and unnecessarily costly drug therapy. It is performed by the medical staff as a criteria-based, ongoing, planned, and systematic process designed to continuously improve the appropriate and effective use of drugs. The process is well described in *Guidelines for Implementing Drug Utilization Review Programs in Russian Hospitals*. The criteria for selection should be STGs.

DUR programs have been implemented in seven hospitals. Among the reviewed drugs were antibiotics, H_2 antagonists, bronchodilators, and antidepressants used in risk group patients. It is anticipated that, as hospitals continue development of their formulary systems, a greater number will implement DUR programs. The collegial process that is essential to helping physicians become better prescribers is a new approach for physicians and administrators alike. Working together on formulary committees has contributed to forming a solid basis for proceeding to DUR.

C. Drug Procurement: Management of Competitive Procurement/Tendering

Formulary-based drug procurement was successful in limited trials. Several trial competitive procurement activities took place during 1995-1997. In 1995, the Ryazan Health Administration conducted a limited tender for insulin that resulted in savings of $585,000, compared to what would have been paid for the same product through direct purchases.

In 1996, the Pskov Health Administration conducted a restricted tender for cardiovascular drugs, antibiotics, and antispasmodics for oblast health facilities, and achieved savings of approximately 10%, when compared to wholesaler price lists. Based on this experience, the governor of the oblast issued a decree mandating competitive procurement for drugs and medical supplies. The Novgorod Oblast Health Administration estimated that the 1997 limited tender led to total savings of 970.2 million rubles (approximately $165,000 dollars).

Novgorod Oblast implemented the widest application of competitive procurement. The 1998 procurement list was created on the basis of the Novgorod Oblast Formulary. It contained approximately 400 drugs to be procured competitively. Novgorod estimated that this process would reduce expenditures for 1998 by 60 to 80 percent compared with 1997 levels.

D. Rational Drug Use[3]

The RPM-Russia Project took several approaches to promoting the rational use of drugs, including working with medical schools on curricula reform, direct training of Russian counterparts, assisting in the establishment of DUR programs, and project results dissemination.

Training assistance consisted of developing and distributing written reference materials, presentations at meetings, on-site technical assistance by RPM staff and consultants, study tours, workshops, and courses. Reference materials developed include the adaptation and translation of the WHO *Guide to Good Prescribing*, manuals on formulary development, and DUR implementation manuals.

Presentations on rational drug use were made at the Russian National Man and Drug Congresses, AIHA Annual Conference in the United States, Abt-sponsored Zdrav*Reform* conference, RPM/WHO conference in Moscow, and at conferences at Saint Petersburg State Medical University.

As noted earlier, the most impressive results were achieved by RPM in collaboration with Ryazan Medical University, which introduced dramatic curricula changes to incorporate principles of rational drug use. However, measuring impacts from curricula reform requires a long term approach.

[3] Not studied in the RPM Impact Evaluation

E. Management and Economic Viability of Pharmacies[4]

RPM community management activities took place only in Ryazan Oblast by request of the Ryazan Oblast Health Administration. These activities focused on identifying and designing interventions to fill the gaps in the management skills of community pharmacy managers in the face of a rapid transition from a centralized to a market system. While the pharmacy directors exhibited proficiency in various aspects of pharmacy management, RPM activities provided opportunities to learn new information and skills related to pharmacy operations, human resource management, financial analysis and decision-making, and marketing. Pharmacy managers developed and implemented business plans according to a template developed by RPM. The regional pharmacy licensing authority used these same processes to develop and successfully implement business turnaround plans for several failing pharmacies. As a result, a number of aspects of business plans were incorporated as requirements for obtaining new pharmacy licenses or renewals.

At the beginning of the project, the oblast health administration had a pronounced tendency to regulate the pricing and activities of pharmacies. This issue was addressed in the RPM Report "Pricing Options for Pharmacies in Ryazan Oblast." Administrative authorities became more flexible, and were willing to adopt the pricing recommendations, when they saw the positive effects of competition. These benefits included an increased assortment of pharmacy goods, decreasing cost of pharmaceuticals to patients, and an increase and improvement in pharmacy services, particularly among those pharmacies participating in RPM programs.

An unanticipated, but gratifying, result of the pharmacy management activities was that participants adapted RPM teaching methodologies to their work environments. Small group activities, role playing, and case studies were new methods not traditionally experienced by these participants. Encouraging nonjudgmental feedback was of particular value in increasing their ability to think creatively outside of the accepted norm. Their feedback indicated that the concepts and skills learned in RPM activities were not too complex, and the framework provided by RPM helped them organize data into valuable information for decision-making.

One of the most difficult concepts for pharmacy managers and oblast administrators alike was that a market economy provides the opportunity to either succeed or fail. This concept was particularly threatening to the post-Soviet population, where the expectation and need for a safety net was great. A reason for the success of the activities in Ryazan Oblast was the willingness on the part of the administration to accept that good management concepts can be applied in either public or private settings. In addition, there was sufficient time to put these concepts into practice and see results.

[4] Not studied in the RPM Impact Evaluation

IV. PLANNED RPM-RUSSIA ACTIVITIES NOT COMPLETED

Most of the activities planned and not fulfilled by RPM were due to unfavorable political and economic developments in Russia described in Section I.C., "Challenges Facing RPM-Russia: Constraints Encountered and Program Adjustments." According to the last RPM-Russia work plan approved by the USAID/Moscow Mission, covering the time period of January 1997 - April 1998, RPM-Russia did not carry out the following activities:

Direct technical assistance to oblasts for pooled procurement. During the course of the project this activity was postponed several times due to requests from oblasts. It was decided that RPM first had to concentrate on drug selection and formulary development, procurement being the next step in the drug supply process. By the time oblast formulary lists were in place at the end of 1997, it became clear that pooled procurement was not viable as a method of drug supply for oblast public health systems. The existing Russian federal regulations did not allow hospitals to merge drug funds, without which pooled procurement could not take place. Instead, Ryazan and Novgorod Oblasts successfully implemented individual formulary-based centralized procurement methods. Under this system, drug funds for the whole oblast are controlled by the oblast health administration, and, depending on the availability of cash or barter trade, procurement is done either on competitive basis (Novgorod), or by centralized direct negotiation (Ryazan). It should be noted, though, that RPM oblasts could have benefited from a formal training in competitive procurement methods, but such training was not planned for the discussed period.

High level technical meetings. The success of the first high level technical meeting in October 1996 resulted in RPM including an additional meeting in its work plan. A meeting was scheduled for the first quarter of 1998, and it was expected that Ministry of Health (MOH) representatives would attend it. However, changes in the MOH made it impossible to conduct the meeting on time.

Rational Prescribing Workshop with WHO. This workshop was planned for the end of 1997, and was to be the second in the proposed series of workshops on rational drug use. The workshop did not take place due changes in the WHO work plan.

Distribution of community pharmacy manual. RPM began to develop the manual in 1995, but during the course of development it became clear to USAID/Moscow and RPM that privatization and improvement in economic viability of community pharmacies were progressing adequately in Russia without outside assistance. It was then decided to discontinue this activity in favor of other project components.

V. RPM TB SURVEYS IN RUSSIAN OBLASTS

By April 1998, MSH/RPM-Russia activities were completed. However, due to RPM expertise in the Russian pharmaceutical sector, the USAID Mission in Moscow commissioned two studies of the situation of tuberculosis (TB) in Russia. The study of TB treatment methods was conducted during April and May 1998. A study on the availability and procurement methods of TB drugs was performed during July and August 1998, in both RPM and non-RPM oblasts and TB facilities. In conducting the studies, RPM relied upon its Russian collaborators in oblasts, Pharmedinfo, and former MSH/RPM Moscow office consultants.

The key results of the studies are briefly described below:

A. The Diagnosis and Treatment of Tuberculosis in Five Russian TB Hospitals

The diagnosis guidelines in all five surveyed hospitals appeared to be similar. However, sensitivity testing takes three months in all hospitals except Novgorod TB Hospital, where it only takes fifteen days. There is a high incidence of drug-resistant TB in some hospitals. Pskov TB Hospital, for example, reported that 36% of patients showed primary drug resistance and 54% acquired resistance during the course of therapy. Thus, TB drug resistance could become a major issue in Russia.

Treatment regimens varied among TB hospitals and deviated from internationally accepted treatment guidelines. For example, the duration of inpatient therapy for the same stage of TB ranged from two to six months, and total treatment lasted from 18 months to three years in one method. The use of large numbers of drugs for the treatment of side effects and for maintaining therapy was also a deviation from international norms.

B. Availability and Procurement Methods of First-Line Tuberculosis Drugs in Four Russian Oblasts (Ryazan, Novgorod, Pskov, and Yaroslavl Oblasts)

The study showed that, although the domestically produced first-line anti-tuberculosis (TB) drugs isoniazid, rifampicin, pyrazinamide, streptomycin, and ethambutol were all available on the Russian market, oblasts experienced periodic stock-outs of these drugs. No correlation was identified between the amount of money spent per capita in the oblasts on drug purchases and the availability of TB drugs to patients. The availability of drugs was determined mainly by procurement methods.

There was a clear relationship between the type of procurement (centralized versus decentralized) and the cost of TB drugs for oblasts, irrespective of means of payment (barter or cash purchases). Barter trade, when managed centrally, can ensure good prices and availability due to volume discounts and oblast government guarantees for suppliers. Likewise, a relationship existed between procurement methods and the cost of TB drugs to the oblasts. Competitive tendering made prices and drug expenditures significantly lower than any other procurement method.

It should be noted that despite similar economic situations in the surveyed oblasts, the availability of TB drugs to patients was significantly better in those two oblasts (Ryazan and Novgorod) that went farther in the implementation of RPM project. In both Novgorod and Ryazan, drug selection is strictly determined by the oblast formulary system, procurement is centralized, and procurement is based on the formulary. Yaroslavl (a non-RPM oblast) and Pskov, where RPM reforms were slowed down by political changes in local government, spend twice as much on pharmaceuticals per capita as Novgorod and Ryazan, and yet experience severe drug shortages.

The results of both studies were reported to the USAID in September 1998, and are expected to assist the Mission in developing its TB strategy for Russia.

The RPM recommendations on possible interventions to tackle the TB problem in Russia are summarized in Section VII, "Likely Needs After the End of the Project."

VI. SUSTAINABILITY

The RPM-Russia experience and materials dissemination activities resulted in growing interest throughout Russia in formulary system implementation. Formulary systems were implemented without RPM technical assistance in Saint Petersburg Medical University Hospital, in Vladivostok Krai Hospital, Ekaterinburg Oblast hospitals, Tomsk Cardiological Hospital, and in other sites. The interest in, and acceptance of, RPM concepts became even wider with establishment of the All-Russia Drug Information Network (ARDIN), developed through the USP component of RPM.

By request of Ekaterinburg Oblast Health Administration in December 1998, RPM participated in the Urals Regional Conference, dedicated to issues of formulary system implementation. The Conference was attended by approximately 200 participants representing the Urals region: Sverdlovsk, Perm, Chelyabinsk, Kurgan, and Tyumen Oblasts; and two Republics, Udmurtia and Bashkortostan. These oblasts are planning to commence formulary system development activities.

Although RPM-Russia was designed to work at the oblast level and did not plan to provide any technical assistance to the Russian Federation Ministry of Health, the success of formulary systems in RPM oblasts made the MOH decide to initiate work on developing a Russian National Drug Formulary.

As the first step in this process, the MOH asked Pharmedinfo to organize a national conference to discuss formulary system options. The national conference, "Drug Formulary Implementation in Russia," was held in Moscow from December 7-8, 1998. The Conference was sponsored and supported by the Russian Federation Ministry of Health, Pharmedinfo, USAID, USP, and MSH. Approximately 150 participants representing national organizations and ministries discussed the future of the Russian formulary system.

Among the most important outcomes of the Conference was the decision to initiate formulary system development at the national level, and to devote the 1999 Russian National Man and Drug Congress to issues of formulary system development.

The agendas for the Ekaterinburg and Moscow Conferences can be found in Annex 4.

VII. LIKELY NEEDS AFTER THE END OF THE PROJECT

A. National-Level Needs

Given the latest decision of the MOH to initiate the national formulary development process, the technical assistance to Russia after RPM may be focused on the following:

- Help the MOH a develop national approach to formulary system development
- Design an implementation plan for national formulary development that would include appropriate training of national-level experts
- Assist the MOH in designing changes in national health legislation that may be required to support the formulary system
- Assist the MOH in tackling the growing TB problem, including assistance in the implementation of new treatment standards and competitive procurement of TB drugs

B. Oblast-Level Needs

At the oblast level, further efforts may be required to assist health administrations in the development of drug and health legislation in order to enhance the sustainable efforts made by RPM. Policy and enforcement mechanisms are needed to maintain the commitment of oblast health administrations to ensuring adequate drug supply for public health facilities. Such policies may include:

- Development of, and strict adherence to, local essential/formulary drug lists
- Harmonization of formulary lists with modern treatment standards
- Utilization of ABC/VEN analysis as a tool for prioritizing drug selection
- Implementation of modern drug quantification techniques
- Centralized procurement for public health facilities based on a list of preselected drugs
- Strict control of drug distribution through every step of the system, down to the patient level
- Implementation of drug utilization review programs
- Control of drug-related morbidity and adverse reaction reporting
- Drug use restrictions

Russian oblasts may benefit from formal training in competitive procurement techniques. The RPM experience proved that competitive procurement methods are most beneficial for health systems in the environment of severe funds shortages. Since the economic situation in Russia is not likely to improve in the near future, drug tenders may be the only solution to provide adequate drug supply for public health facilities. Federal institutions responsible for training in public procurement should develop a course in competitive drug procurement.

Further efforts may also be required for establishing legal support for pooled procurement at the oblast level.

C. Tuberculosis Situation

The two RPM/USAID TB studies recommended possible interventions to improve TB diagnosis and treatment in Russia, including the following:

1. Diagnosis and treatment study suggestions

- Assistance in the implementation of rapid methods of sensitivity testing, such as the BACTEC method
- Promotion of internationally accepted treatment regimens of proven efficacy
- Use of ABC/VEN analysis as a method of determining the exact allocation of funds for TB treatment.

2. Availability and procurement study suggestions

- Further study may be required to investigate the quality of domestically produced TB drugs.
- Russian regions may benefit from establishing a system to report TB drug stock-outs.
- Effort should be made to promote centralized and competitive procurement of TB drugs at the oblast level.
- Policy and enforcement mechanisms are needed to show commitment of oblast health administration to having adequate drug supply for public health facilities.
- Oblasts should consider ways of making outpatient treatment more effective by facilitating the purchase of TB drugs for outpatients rather than erecting new facilities that encourage extended inpatient treatment.
- In light of the serious situation of TB in Russia, efforts should be made to guarantee funds for the purchase of TB drugs.

ANNEX 1: RPM-RUSSIA HISTORY BY MODE OF IMPLEMENTATION

A. Reconnaissance Visits

November 1993 - January 1994: Two reconnaissance visits were made to Russia after receiving add-on funds in order to establish relationships with the MOH and to select the pilot oblast. Pharmedinfo, a quasi-governmental organization responsible for the provision of drug information in Russia, was chosen by the MOH as RPM-Russia's official collaborating organization. Ryazan Oblast, located south of Moscow, was chosen as the pilot site in January 1994.

July - August 1995: RPM team visited Novgorod and Pskov Oblasts and discussed possibilities of roll-out with oblast health administrations. Oblast health authorities expressed willingness to commence RPM activities.

B. Pharmaceutical Sector Assessments

May - November 1994: RPM conducted an in-depth pharmaceutical sector assessment of Ryazan Oblast. Preparation included substantial adaptation of existing assessment tools and the orientation of local officials and specialists to western pharmaceutical terminology and concepts. The entire assessment process resulted in the creation of a large number of local stakeholders.

November - December 1995: Assessments were conducted in Novgorod and Pskov Oblasts, relying heavily on local specialists to collect and analyze indicator data. In the roll-out oblasts, initial enthusiasm was so great that technical work began even before the assessments were conducted.

C. Policy Options Dialog

November 1994: A "Policy Options Workshop" was held in Ryazan Oblast for approximately 80 officials and specialists from Ryazan, Moscow, Saint Petersburg, and the US. Assessment findings were presented and participants drafted work plans for each RPM-Russia technical area. The workshop resulted in further creation of stakeholders.

March 1996: RPM conducted a joint Novgorod and Pskov Oblasts "Policy Options Workshop" for 64 participants representing all levels of oblast health system. Both oblasts adopted RPM as a means of reforming the pharmaceutical sector. The project implementation plan became part of oblast health development programs approved by local governments.

D. Direct Technical Assistance

February 1995: RPM provided direct TA to Ryazan Oblast in formulary development. As a result:,

- A formulary committee was established in Ryazan Oblast Clinical Hospital
- Policies and procedures of the formulary committee were developed
- A plan for formulary development and implementation was established
- A therapeutic classification scheme was established
- Computer software was developed to facilitate drug class review process

- A review of antibiotic category of drugs was performed

February 1995: Direct TA to Ryazan Oblast in drug procurement. Outcomes:

- Drug quantification needs identified for 1995 procurement
- INVEC software for inventory control was demonstrated
- A sample of tender contract was developed in Russian
- A tender committee established in Oblast Health Administration

April 1995: Direct TA to Ryazan Oblast. Outcomes:

- The antibiotic formulary list was finalized
- Formulary activities initiated at Ryazan City Hospital #11

May 1995: Direct TA to Ryazan Oblast. Outcomes:

- The cardiovascular formulary list was finalized at Ryazan Oblast Clinical Hospital (ROCH)
- A pilot DUR study was initiated at ROCH
- RPM-based training materials developed by Ryazan Medical University were reviewed

September 1995: Direct TA to Ryazan Oblast. Outcomes:

- Draft hospital formulary list was developed at ROCH
- Business plans developed at 25 community pharmacies in Ryazan

November 1995: Direct TA to Ryazan Oblast. Outcomes:

- Hospital drug formulary list approved for use and procurement at ROCH
- ROCH staff received on-site training in DUR concepts
- Drugs were selected and schedules developed for DUR at ROCH

February 1996: Direct TA to Novgorod and Pskov Oblasts. Outcome:

- Draft health reform implementation plans developed by oblast health administrations in preparation for Policy Options Workshop

March 1996: Direct TA to Ryazan community pharmacies. Outcome:

- Action plans developed by community pharmacies for 1996

May 1996: Direct TA to Novgorod and Pskov Oblasts. Outcomes:

- Formulary committees were established at oblasts' health administrations
- Policies and procedures of the formulary committees were drafted
- Therapeutic classification scheme was established

September 1996: Direct TA to three oblasts. Outcome:

- Oblast health officials drafted plans for implementation of DUR programs in oblast health facilities

November 1996: Direct TA to Novgorod and Pskov in DUR and formulary development. Outcomes:

- DUR activities were initiated in 10 hospitals
- Policies and procedures of oblast formulary committees developed

February 1997: Direct TA to Ryazan Oblast in Hospital Formulary Manual development. Outcome:

- Draft formulary manual approved by ROCH and prepared for printing

March - May 1997: Direct TA to Novgorod and Pskov Oblasts in formulary development. Outcome:

- Draft oblast formulary lists developed and approved by oblasts' health administrations

April 1997: Direct TA to Ryazan Oblast in Hospital Formulary Manual development. Outcome:

- Ryazan Oblast Clinical Hospital Manual published

September 1997: Direct TA to Novgorod and Pskov in formulary development. Outcomes:

- Oblasts' formulary lists revised
- First edition of Novgorod Oblast Formulary Manual approved for use in oblast

November 1997: Direct TA to Pskov in formulary development. Outcome:

- Second revised edition of Pskov Oblast formulary list approved for use in the oblast

E. Meetings

April 1995: RPM participated in Second Russian National Man and Drugs Congress with symposium and roundtable discussions. A wide audience of Russia health providers was familiarized with rational pharmaceutical management concepts, and plans for reforming Ryazan pharmaceutical sector within the framework of RPM.

April 1996: RPM participated in Third Russian National Man and Drugs Congress with symposium and roundtable discussions. At RPM sessions, Ryazan Oblast shared its experience of the initial stage of formulary system implementation at the hospital level. Ryazan Medical University discussed changes it made to under- and post-graduate curricula to incorporate RPM materials in rational drug selection, use, and drug information development.

October 1996: RPM-Russia made presentations on drug selection and use at the American International Health Alliance (AIHA) Annual Conference in Iowa, USA.

November 1996: RPM conducted a session at the Russian conference on "Health Reforms in Russia: Experience of Russian-American Cooperation" organized by the Abt Zdrav*Reform* Project.

January 1997: RPM-Russia made two presentations at a Pharmacology Conference held at Saint Petersburg Medical University.

April 1997: RPM participated in the Fourth Russian National Man and Drugs Congress with symposium and roundtable discussions. Presentations were made by RPM oblasts' health administrations on specifics of RPM implementation in individual oblasts.

April 1998: The results of RPM impact survey were discussed by oblast participants at the Fifth Russian National Man and Drugs Congress.

December 1998: RPM Russia made three presentations at the Urals Region Conference "Clinical Pharmacology and Rational Pharmaceutical Management" organized by Sverdlovsk Oblast Health Administration in Ekaterinburg.

December 1998: RPM made presentations at the "Drug Formulary Implementation in Russia" conference organized by the Russian Federation Ministry of Health.

F. Study Tours

June 1995: Health System Overview Study Tour, Texas. Four Ryazan Oblast officials participated in a "Health System Overview Study Tour" in Texas. Visits to hospitals reinforced the importance of drug formularies and accelerated the formulary development process at the Ryazan Oblast Clinical Hospital. Likewise, exposure to US buying groups accelerated the formation of a Ryazan Oblast tender committee.

October 1995: Formulary System Development Study Tour, Tucson, Arizona and Washington D.C. Seven Ryazan and Novgorod officials received advanced training in formulary development, and orientation to drug utilization review (DUR), use of drug information databases, and desktop publishing. The tour facilitated acceptance of DUR as part of the drug selection process.

August 1996: Community Pharmacy Management Study Tour, Michigan. Eleven health professionals from Ryazan, Pskov, and Novgorod Oblasts, and Moscow participated in the study tour. The tour highlighted established and innovative US pharmacy practices.

G. Workshops and Training

May 1994: *Indicator-Based Assessments*. RPM-Russia trained 20 data collectors from Ryazan oblast in use of indicators in evaluating pharmaceutical systems.

November 28 - December 2, 1994: *Policy Options Workshop*. In Ryazan oblast, 70 participants discussed and drafted the RPM implementation plan for the oblast.

May 15-20, 1995: *Practical Pharmacy Management: Application in Russia*. Conducted by RPM with AED funds. The workshop provided practical follow-on training for participants of US training programs, and representatives from Ryazan. Total of 47 participants were trained in clinical pharmacy and formulary development, management of drug information, pharmacy management, and medical insurance.

May 1995: RPM-Russia trained Ryazan Medical University faculty in use of drug information software, and Ryazan Oblast Clinical Hospital staff in use of formulary development software.

September 1995: *Community Pharmacy Management*. RPM-Russia conducted an "Advanced Community Pharmacy Management Workshop" in Ryazan Oblast in for 20 pharmacy directors. The main goal was to introduce the process of business plan development. Participants attended a second, more intense workshop in March 1996.

September 1995: *Indicator-Based Assessments.* RPM-Russia conducted a pre-assessment workshop for 24 Novgorod and Pskov specialists in the use of indicators in evaluating pharmaceutical systems.

September 1995: *Formulary Development*. RPM-Russia conducted a mini workshop on formulary development for 46 participants from Novgorod and Pskov Oblasts at the request of local officials eager to begin work in this area.

February 12-23, 1996: *Formulary Development and Maintenance*, Moscow. The first major training in step-by-step formulary system development for 67 participants from RPM oblasts Ryazan, Novgorod, and Pskov. Abt Associates sponsored additional participants from Zdrav*Reform* Project regions: Tomsk, Kemerovo, and Novosibirsk Oblasts, Altai Krai, and Moscow.

March 11 - 15, 1996: *Pharmacy Management Intensive,* Ryazan. RPM provided training for 15 community pharmacy directors of Ryazan oblast in pharmacy management issues.

March 18 - 22, 1996: *Policy Option Workshop for Novgorod and Pskov Oblasts*., Valdai. The status of pharmaceutical sector of the oblasts was reviewed, problems identified, and RPM technical areas defined. Training in the pharmaceutical sector was provided for 45 participants.

May 20 - 24, 1996: *Formulary Development and Maintenance II.* The workshop was held for 61 specialists from Ryazan, Novgorod, and Pskov.

September 30 - October 4, 1996: *Drug Utilization Review Workshop*. Sosnovy Bor, Ryazan oblast. Instruction for stepwise implementation of a drug utilization review (DUR) program was provided for 60 participants from RPM oblasts.

September 1996: RPM-Russia conducted a lecture on "Cost Effective Drug Selection" for 200 medical students at the Ryazan Medical University. The university Pharmacology Department adapted the lecture and presented it as a three-hour lecture for 144 physician interns. It has been incorporated into the medical school curriculum, and used in the Information Education Center opened with USP support.

October 28 - 31, 1996: *High Level Technical Meeting: Formulary System Implementation Problems*. The meeting included training of 53 participants from Novgorod, Ryazan, Pskov oblasts, and Saint Petersburg in specific drug selection, steps of DUR implementation, ABC/VEN analysis, pooled procurement, and drug information development.

January 31, 1997: *Formulary System Options*. Saint Petersburg. RPM gave a presentation of formulary system options for 35 participants from Saint Petersburg.

February 1997: *Formulary System Implementation*. As a result of the RPM-Russia presentation at the AIHA Annual Conference in late 1996 in Iowa, USA, a workshop was held in Moscow for 21 participants from partnership hospitals in Russia, Georgia, and Armenia.

May 21 - 23, 1997: *Rational Drug Use.* RPM-Russia collaborated with WHO to conduct a workshop on "Integration of Rational Prescribing Practice in Medical Undergraduate Curricula in the NIS." The workshop focussed on the WHO *Guide to Good Prescribing* that was adapted by RPM-Russia for use in Russia. The workshop was attended by approximately 75 participants from seven NIS countries.

June 9 - 11, 1997: *Formulary Development and DUR.* Moscow. RPM/USP organized practical conference Drug Information for the Health Care Professionals included a workshop on formulary development and DUR. Training was provided for 110 participants from Russian regions and most NIS countries.

H. Courses

November 1995: Knowledge of clinical pharmacology is critical to successful implementation of drug formulary systems, but is an area in which local physicians consistently say they need more training. RPM technical staff, in collaboration with the faculty of Russian State Medical University, conducted a three-week course in clinical pharmacology and drug selection issues by therapeutic categories for 140 Novgorod and Pskov physicians.

I. MSH/RPM Moscow Office Development

June - July 1995: The MSH RPM-Russia office was established in Moscow, with the capacity of providing on-site technical assistance to RPM oblasts by its staff. In the course of the project, the Moscow office also played an important role in disseminating of RPM methodology and materials, leveraging efforts with other USAID and international projects, and maintaining RPM activities in oblasts.

J. RPM-Russia Surveys and Studies

September 1997 - February 1998: Following recommendations of RPM evaluation team, RPM developed questionnaires and conducted assessment of RPM impact on oblasts health systems. The collected data and the analysis showed that formulary systems were successfully established in three RPM oblasts.

March - April 1998: At the request of the USAID mission in Moscow, RPM conducted a brief survey of diagnosis and treatment methods of tuberculosis in five Russian hospitals, including three TB hospitals located in RPM oblasts. The survey resulted in proposal to the mission for further study of TB problem in Russia.

July - August 1998: The USAID mission in Moscow commissioned a study of the availability and procurement methods of first-line TB drugs in four Russian oblasts. The results of the study were summarized in a report that helped the mission to develop its TB strategy for Russia.

K. MSH/RPM-Russia Close-Out

August 1998: RPM-Russia close-out plan was developed and discussed with USAID/Moscow. RPM-Russia was to complete all activities by December 31, 1998.

November 1998: RPM developed and delivered a presentation on the impacts of its activities in Russia for a broad audience from USAID/Washington.

December 1998: RPM received confirmation on RPM Russia property disposition. The recipients were Russian collaborators: Ryazan Oblast Clinical Hospital, Ryazan State Medical University, RC Pharmedinfo, and Pskov Oblast Pharmacia.

December 1998: The final RPM-Russia report was submitted to USAID, and all activities completed.

ANNEX 2: RPM-RELATED PUBLICATIONS

A. Abstracts on RPM in Man and Drug Congresses Materials

Second Russian National Man and Drugs Congress, 1995

Makarova V.G., Semenchenko M.V., Yakusheva E.N. *Educational Center of the Drug Information Service*. Ryazan State Medical University.

Popova N.N. *Reformation of the Drug Distribution System on the Regional Level*. Ryazan Oblast APO "Pharmacia."

Voronkov D.V., Grechenko V.I., Dykin V.A., Tarasov A.V. *Rational Pharmaceutical Management on the Regional Level*. Ryazan Oblast Clinical Hospital; Pharmaceutical Committee.

Third Russian National Man and Drugs Congress, 1996

Armstrong E., Savelli A., Schwarz H., Bykov A.V., Zagorski A.P. *Drug Utilization Review (DUR)*. College of Pharmacy, University of Arizona; Management Sciences for Health.

Armstrong E., Smith G., Savelli A., Bykov A.V., Zagorski A.P. *Pharmacoeconomic Aspects of Rational Pharmaceutical Management*. College of Pharmacy, University of Arizona; Management Sciences for Health.

Bykov A.V., Belousov Y.B., Savelli A., Tkhostova E.B. *The Importance of Post-Graduate Education in Implementation of Rational Pharmaceutical Management Project.* Management Sciences for Health; Russian State Medical University, Moscow.

Kotov G.N., Voronkov D.V., Minashkina L.A., Stepanova L.A., Sallet J.P. *Informational-Reference System "Formular."* Ryazan Oblast Clinical Hospital; Management Sciences for Health.

Minashkina L.A., Voronkov D.V., Yakushin S.S., Savelli A., Stepanova L.A., Markov A.I., Dragunkin Y.V., Kupriyanova T.A. *Drug Selection and Formulary Development in Ryazan Oblast Clinical Hospital.* Ryazan Oblast Clinical Hospital; Management Sciences for Health.

Savelli A., Schwarz H., Zagorski A.P., Bykov A.V., Afanasiev N.Y. *Formulary as a Basis for Rational Pharmaceutical Management*. Management Sciences for Health; USAID.

Semenchenko M.V., Makarova V.G., Savelli A. *The Experience of Formulary Manual Drug Monographs Development.* Ryazan State Medical University; Management Sciences for Health.

Stepanova L.A., Voronkov D.V., Minashkina L.A., Schwarz H., Dobrovolskaya T.F. *Modern Concepts of Informational Drug Formulary Development.* Ryazan Oblast Clinical Hospital; Management Sciences for Health.

Fourth Russian National Man and Drugs Congress, 1997

Artemieva G.B., Arhipov A.E. *Role of Formulary System in Health Care Quality Assurance*. Ryazan Oblast Health Administration.

Belousov Y.B., Bykov A.V. *Principles of Rational Drug Use: Role of Clinical Pharmacology*., Russian State Medical University; Management Sciences for Health.

Bykov A.V., Zagorski A. *Clinical and Economical Aspects of Cost-Effective Drug Selection*. Management Sciences for Health.

Dobrovolskaya T., Voronkov D., et al. *Role of Drug Information Center in Formulary System Development*. Ryazan Oblast Clinical Hospital.

Dmitriev A., Artemieva G. *Formulary System in Pediatrics*., Ryazan Oblast Children's Hospital; Ryazan Oblast Health Administration.

Ignatov Y., Zaitsev A., et al. *Drug Formulary Development in the Medical University Hospital*. Saint Petersburg State Medical University.

Makarova V., Semenchenko M., Yakusheva E. *Integrated Course on Rational Pharmaceutical Management in Ryazan Medical University*. Ryazan Medical University.

Makarova V., Semenchenko M., Yakusheva E. *Methodological Background for RPM-Based Teaching Programs*. Ryazan Medical University.

Medik V.A. *Legislative Basis for Rational Pharmaceutical Management on Regional Level*. Novgorod Oblast Health Administration.

Medik V.A. *Oblast Drug Formulary Development*. Novgorod Oblast Health Administration.

Minashkina L., Makarova V., et al. *Drug Utilization Review Implementation in Ryazan Oblast Clinical Hospital*. Ryazan Oblast Clinical Hospital.

Savelli A., Bykov A. *Clinical Pharmacology as Scientific Basis for Formulary System Implementation*. Management Sciences for Health.

Savelli A., Bykov A., Zagorski A. *First Results of Cost-Effective Drug Selection on Regional Level*. Management Sciences for Health.

Shlygin S., Bogatin A. *Formulary System Implementation Strategy in Pskov Oblast*. Pskov Oblast Health Administration.

Sonin D. *Specifics of Rational Pharmaceutical Management in Dermatology*. Ryazan Oblast Dermatology Clinic.

Stepanova L., Voronkov D. *Drug Formulary Manual Development in Ryazan Oblast Clinical Hospital*. Ryazan Oblast Clinical Hospital.

Zakharov A., Ivanova N. *Drug Utilization Review Program as Main Component of Rational Drug Use*. Pskov City Hospital.

Fifth Russian National Man and Drugs Congress, 1998

Artemieva G., Tolstov N., et al. *Formulary System and Quality Assurance Problems*. Ryazan Mandatory Medical Insurance Fund.

Egorova S. *Experience in Oblast Formulary Manual Development*. Novgorod Oblast Health Administration Drug Information Center.

Kim M. *Development and Implementation of Oblast Target Drug Supply Programs*. SE Pharmacia, Novgorod Oblast.

Kolotvinov S., Yastrebov A., et al. *Some Aspects of Formulary System Implementation.* The Urals Medical Academy, Yekaterinburg.

Makarova V., Semenchenko M., et al. *Ryazan Medical University Educational Programs Based on Rational Pharmaceutical Management Project*. Ryazan Medical University.

Medik V. *On Some Outcomes of Rational Pharmaceutical Management Project in Novgorod Oblast*. Novgorod Oblast Health Administration.

Minashkina L., Voronkov D., et al. *Drug Formulary as Means of Drug Management in Hospital Setting*. Ryazan Oblast Clinical Hospital.

Savelli A., Zagorski A., Ushkalova E. *Rational Pharmaceutical Management Project: Four Years of Experience in Russia*. Management Sciences for Health.

Stepanova L., Garmash V., et al. *Drug Utilization Review: Treatment of Ischemic Insults in Hypertensive Patients in Intensive Care Setting*. Ryazan Oblast Clinical Hospital.

Svistunova T. *Oblast Drug Legislation Development: Novgorod Oblast Law On Drug Supply*. Novgorod Oblast Health Administration.

Tolstov N., Artemieva G. *Role of Formulary System in Drug Supply within Mandatory Medical Insurance System*. Ryazan Oblast Mandatory Medical Insurance Fund.

Ushkalova E., Savelli A., Zagorski A. *Rational Drug Selection and Formulary Development*. Management Sciences for Health.

Voronkov D., Minashkina L., et al. *The Role of Formulary-Therapeutics Committee in Hospital Drug Supply Activities*. Ryazan Oblast Clinical Hospital.

Zaitsev A., Karpov O. *Clinical and Economical Aspects of Drug Formulary*. Saint Petersburg Medical University.

B. Other Publications

Belousov, Yuri (Russian State Medical Univerity). "Formularies as the Basis of Rational Drug Therapy," *Pharmacia Journal*, volume 3, 1996.

Bykov A., Zagorski A. "Clinical and Economic Aspects of Rational Drug Use," *Pharmaceutical Gazette*, #8: 1996.

Bykov A., Belousov Y., Olbinskaya I. (The Presidium of the Clinical Pharmacologists and Pharmacotherapists Society). "Clinical and Economic Aspects of the Rational Drug Use," *Pharmacia Journal*, volume 1: 1997.

Bykov A., Zagorski A. "Drug Formulary as the Basis of Rational Pharmaceutical Management," *Pharmaceutical Gazette*, #9: 1996.

Bykov A., Zagorski A. "Rational Pharmaceutical Management," *Pharmaceutical Gazette*, #5 (6): 1996.

Makarova V., Savelli A., Semenchenko M. "Rational Drug Use, Drug Formulary Development: Methodological Recommendations for Physicians,". *Ryazan Medical University Papers*: 1996

Sapovsky M.M. "Organizational Aspects of Rational Drug Use on the Basis of Regional Formulary System." Ph.D. diss. abstract, Military-Medical School at the Russian Medical Academy of Post-Graduate Education, 1996.

Shashkova G., Ushkalova E. "Drug Formulary System Development in Russia," *Pharmacia Journal*, # 5: 1998.

"USAID-MOH Health Projects: Rational Pharmaceutical Management Project." *Pharmaceutical Gazette*, #4 (8): 1996.

Voronkov Dmitri V. (Chief Physician of Ryazan Oblast Clinical Hospital). "New Approaches to Rational Use of Drugs (Implementation of Rational Pharmaceutical Management Project in Ryazan Oblast), *Chief Physician Journal*, #3: 1996.

C. RPM Key Materials and Products Disseminated in Russia

Armstrong, E.P., A. Bykov, and A.V. Savelli. *Introducing Formulary Drug Selection in Russia*. AJHP 1996; 53:426-8.

Callender, D. *The Diagnosis and Treatment of Tuberculosis in Five Russian TB Hospitals.* Arlington, VA: Rational Pharmaceutical Management Project/Management Sciences for Health, September 1998.

Duzey, O.M., and H.B. Desai. *Guide to Successful Management of Community Pharmacies*. Arlington, VA: Rational Pharmaceutical Management Project/Management Sciences for Health, January 1997 (draft).

Management Sciences for Health/Rational Pharmaceutical Management Project. *Rapid Pharmaceutical Management Assessment: An Indicator-Based Approach.* Arlington, VA: Rational Pharmaceutical Management Project/Management Sciences for Health, September 1995 (Russian edition).

Moore, T.M., A. Bykov, A.V. Savelli, and A. Zagorski. *Guidelines for Implementing Drug Utilization Review Programs in Russian Hospitals.* Arlington, VA. Rational Pharmaceutical Management Project/Management Sciences for Health, September 1996.

Moore, T.M. *Drug Utilization Review Workshop Proceedings: Ryazan Oblast*. Arlington, VA: Rational Pharmaceutical Management Project/Management Sciences for Health, September 1996.

Moore, T.M. *Conference Proceedings: Novgorod and Pskov Oblasts Policy Options Workshop.* Arlington, VA: Rational Pharmaceutical Management Project/Management Sciences for Health, March 1996.

Moore, T.M., A.V. Savelli, H.O. Schwarz, A. Zagorski, K. Burimski, and O. Solovieva. *Novgorod Oblast Pharmaceutical Sector Assessment.* Arlington, VA: Rational Pharmaceutical Management Project/Management Sciences for Health, November 1995.

Moore, T.M., A.V. Savelli, H.O. Schwarz, A. Zagorski, K. Burimski, and O. Solovieva. *Pskov Oblast Pharmaceutical Sector Assessment.* Arlington, VA: Rational Pharmaceutical Management Project/Management Sciences for Health, November 1995.

Sallet, J.P. *Formulary-R Software.* Arlington, VA: Rational Pharmaceutical Management Project/Management Sciences for Health, September 1995.

Savelli, A.V., H.O. Schwarz, A. Zagorski, and A. Bykov. *Manual for the Development and Maintenance of Hospital Drug Formulary Systems.* Arlington, VA: Rational Pharmaceutical Management Project/Management Sciences for Health, February 1996 (Russian edition), April 1996 (English edition).

Savelli, A.V. *Conference Proceedings: Ryazan Oblast Policy Options Workshop.* Arlington, VA: Rational Pharmaceutical Management Project/Management Sciences for Health, December 1994.

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Schwarz, H.O., A.V. Savelli, and E.P. Armstrong. *Drug Formulary Development in the Newly Independent States.* Submitted to the Annals of Pharmacotherapy January 1997, in press.

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Schwarz, H.O. *Proceedings for the Workshop on the Development and Maintenance of Hospital Drug Formularies, Moscow.* Arlington, VA: Rational Pharmaceutical Management Project/Management Sciences for Health, February 1996.

Zagorski, A. *Availability and Procurement Methods of First-Line Tuberculosis Drugs in Novgorod, Pskov, Ryazan, and Yaroslavl Oblasts*. Arlington, VA: Rational Pharmaceutical Management Project/Management Sciences for Health, September 1998

Zagorski, A. *Availability and Procurement Methods of First-Line Tuberculosis Drugs in Four Russian Oblasts (short version for international donors)*. Arlington, VA: Rational Pharmaceutical Management Project/Management Sciences for Health, October 1998.

ANNEX 3: EQUIPMENT PROVIDED TO RUSSIAN COUNTERPARTS

Annex 3.A.: Equipment provided to Pharmedinfo

MANAGEMENT SCIENCES FOR HEALTH									
RATIONAL PHARMACEUTICAL MANAGEMENT PROJECT									
EQUIPMENT INVENTORY BY LOCATION									
CA No. HRN-A-00-92-00059-13									
CA No. HRN-0004-A-00-5002-00									
			5/22/98						
PHARMEDINFO									
INVENTORY NUMBER	**ITEM**	**BRAND NAME**	**DESCRIPTION**	**DATE PURCHASED**	**SERIAL No.**	**MODEL**	**COST**	**DISPOSITION/ LOCATION**	**CONTRACT**
161	FAX	CANON	PLAIN PAPER, INK JET. WARRANTY REPLACED WITH 292	1/27/95	MCV03257	HI1265 B200	1,198.00	PHARMEDINFO	3200
180	COMPUTER	GATEWAY 2000	PENTIUM	1/7/95	355923	BABY AT,P5-60	2,860.00	PHARMEDINFO	3200
181	PRINTER	H.P.	HP 4L	3/7/95	NLCC39-4711	SPLA93001	795.00	PHARMEDINFO	3200
251	COMPUTER TABLE	DIRECTOR	BLACK	7/17/95		CT800B	168.70	PHARMEDINFO	3200
252	CORNER UNIT	DIRECTOR	BLACK	7/17/95		CNT90BSP	94.95	PHARMEDINFO	3200
253	WRITING TABLE	DIRECTOR	BLACK	7/17/95		ST1500H	168.70	PHARMEDINFO	3200
254	TABLE DRAWER	DIRECTOR	BLACK	7/17/95		FP403B	112.75	PHARMEDINFO	3200
255	DESK CHAIR	DIRECTOR	BLACK	7/17/95		SG500H	114.45	PHARMEDINFO	3200
256	BOOK SHELF	DIRECTOR	BLACK	7/17/95		CSDB23B	152.59	PHARMEDINFO	3200
257	BOOK SHELF	DIRECTOR	BLACK	7/17/95		CSDB23B	152.59	PHARMEDINFO	3200
258	FILECABINET	DIRECTOR	BLACK	7/17/95		FD200 B BASE	245.00	PHARMEDINFO	3200
259	FILECABINET	DIRECTOR	BLACK	7/17/95		FD2008	245.00	PHARMEDINFO	3200

260	WRITING TABLE	DIRECTOR	BLACK	7/17/95		STI500B	168.70	PHARMEDINFO	3200
261	TABLE DRAWER	DIRECTOR	BLACK	7/17/95		FP403B	112.75	PHARMEDINFO	3200
262	DESK CHAIR	DIRECTOR	BLACK	7/17/95		SG500H	114.44	PHARMEDINFO	3200
263	BOOK SHELF	DIRECTOR	BLACK	7/17/95		CSDH23B	152.59	PHARMEDINFO	3200
264	BOOK SHELF	DIRECTOR	BLACK	7/17/95		CSDH23B	152.59	PHARMEDINFO	3200
265	FILE CABINET	DIRECTOR	BLACK	7/17/95		FD200 B BASE	245.00	PHARMEDINFO	3200
266	FILE CABINET	DIRECTOR	BLACK	7/17/95		FD200B	245.00	PHARMEDINFO	3200
267	WRITING TABLE	DIRECTOR	BLACK	7/17/95		ST1500B	168.70	PHARMEDINFO	3200
268	TABLE DRAWER	DIRECTOR	BLACK	7/17/95		SG500H	112.75	PHARMEDINFO	3200
270	BOOK SHELF	DIRECTOR	BLACK	7/17/95		CSDB21B	152.59	PHARMEDINFO	3200
271	BOOK SHELF	DIRECTOR	BLACK	7/17/95		CSDB21B	152.59	PHARMEDINFO	3200
272	FILE CABINET	DIRECTOR	BLACK	7/17/95		FD200 B BASE	245.00	PHARMEDINFO	3200
273	FILE CABINET	DIRECTOR	BLACK	7/17/95		FD200B	245.00	PHARMEDINFO	3200
274	COFERENCE TABLE	DIRECTOR	BLACK	7/17/95		CFT240B	322.99	PHARMEDINFO	3200
275	CONFERENCE CHAIR	DIRECTOR	BLACK	7/17/95		SL225	100.03	PHARMEDINFO	3200
276	CONFERENCE CHAIR	DIRECTOR	BLACK	7/17/95		SL225	100.03	PHARMEDINFO	3200
277	CONFERENCE CHAIR	DIRECTOR	BLACK	7/17/95		SL225	100.03	PHARMEDINFO	3200
278	CONFERENCE CHAIR	DIRECTOR	BLACK	7/17/95		SL225	100.03	PHARMEDINFO	3200
279	CONFERENCE CHAIR	DIRECTOR	BLACK	7/17/95		SL225	100.03	PHARMEDINFO	3200
280	CONFERENCE CHAIR	DIRECTOR	BLACK	7/17/95		SL225	100.03	PHARMEDINFO	3200
281	CONFERENCE CHAIR	DIRECTOR	BLACK	7/17/95		SL225	100.03	PHARMEDINFO	3200
282	CONFERENCE CHAIR	DIRECTOR	BLACK	7/17/95		SL225	100.03	PHARMEDINFO	3200
283	WRITING TABLE	DIRECTOR	BLACK	7/17/95		ST1500B	168.70	PHARMEDINFO	3200
284	TABLE DRAWER	DIRECTOR	BLACK	7/17/95		FP403B	112.75	PHARMEDINFO	3200
285	DESK CHAIR	DIRECTOR	BLACK	7/17/95		SG500H	114.44	PHARMEDINFO	3200

286	BOOK SHELF	DIRECTOR	BLACK	7/17/95		CSDB23B	152.59	PHARMEDINFO	3200
287	BOOK SHELF	DIRECTOR	BLACK	7/17/95		CSDB23B	152.59	PHARMEDINFO	3200
289	MONITOR	VIVITRON 1572	COLOR	3/7/95	8215017	CPD-15F13	0.00	PHARMEDINFO	3200
290	KEYBOARD	GATEWAY 2000	ANYKEY KEYBOARD	3/795	D732189001	2189013	0.00	PHARMEDINFO	3200
291	COFFEE MACHINE	ROWENTA	WHITE	7/17/95	495	FT200	47.52	PHARMEDINFO	3200
292	FAX MACHINE	CANON	WARRANTY REPLACED 161		MCV02059	11265	0.00	PHARMEDINFO	3200
269	DESK CHAIR	DIRECTOR	BLACK	7/17/95		SG500H	114.44	PHARMEDINFO	3200
294	MICROWAVE	SHARP	WHITE	9/28/95	950709774	R-2V56	148.42	PHARMEDINFO	3200
293	PHOTOCOPIER	XEROX	AUTO FEED, DOUBLE SIDED, AUTO SORT	8/21/95	3104749444	5332/2	8,021.74	PHARMEDINFO	3200
295	MODEM	ZYXEL	FAX/MODEM	9/6/95	S550220139	U-1496E	331.43	PHARMEDINFO	3200
296	OVERHEAD	GEHA	TOP VISION, SLOW FUSE	5/14/95	687544	U-1496E	1,340.00	PHARMEDINFO	3200
297	PRINTER	HP	LASERJET, L5	4/11/96	JPBW004198	L5	647.96	PHARMEDINFO	3200
298	UPS	UPS INTERNET	UPSC/300	12/5/97	AO 164530	USPSC/300	129.59	PHARMEDINFO	3104
344	SAFE	N/A	GRAY	7/17/95	N/A	N/A	200.00	PHARMEDINFO	3200
345	DOCUMENT BINDER	GENERAL BINDING CORP.	BINDING MACHINE/ IMAGE MAKER 2000	7/1/95	HG03911	IM2002-2	529.00	PHARMEDINFO	3200
346	MONITOR	GLOBAL USA	14" ULTRA SVGA COLOR	12/6/94	40309545	CAD 14RG	275.00	PHARMEDINFO	3200
						Total:	**$22,184.83**		

Annex 3.B.: Equipment Provided to Pskov Pharmacia

MANAGEMENT SCIENCES FOR HEALTH									
RATIONAL PHARMACEUTICAL MANAGEMENT PROJECT									
EQUIPMENT INVENTORY BY LOCATION									
CA No. HRN-0004-A-00-5002-00									
			5/22/98						
PSKOV PHARMACIA									
INVENTORY NUMBER	**ITEM**	**BRAND NAME**	**DESCRIPTION**	**DATE PURCHASED**	**SERIAL No.**	**MODEL**	**COST**	**DISPOSITION/ LOCATION**	**CONTRACT**
299	PRINTER	HEWLETT PACKARD	LASERJET	3/28/97	CNYN427922	5L	599.02	PSKOV PHARMACIA	3200
300	COMPUTER	ATS	PENTIUM, 16MB, 1.28GB/HDD, VIDEO CARD,CD ROM, FAX MODEM, ACER MONITOR	3/29/97	0300350	ATS-2000	1,487.22	PSKOV PHARMACIA	3200
						Total:	**$ 2,086.24**		

Annex 3.C: Equipment Provided to Ryazan State Medical University Hospital

MANAGEMENT SCIENCES FOR HEALTH
RATIONAL PHARMACEUTICAL MANAGEMENT PROJECT
EQUIPMENT INVENTORY BY LOCATION
CA No. HRN-A-00-92-00059-13
CA No. HRN-0004-A-00-5002-00
5/22/98

RYAZAN STATE MEDICAL UNIVERSITY

INVENTORY NUMBER	ITEM	BRAND NAME	DESCRIPTION	DATE PURCHASED	SERIAL No.	MODEL	COST	DISPOSITION/ LOCATION	CONTRACT
337	OVERHEAD	AMBASSADOR	PORTABLE MODEL	10/27/97	76636620 QC		686.70	RYAZAN MEDICAL UNIVERISTY	3200
148	COMPUTER	COMPAQ PRISRIO	850,DX250MT,270HD, 8RAM,CDROM	1/4/94	6115HHB32585	PRESARIO 850	2,647.05	RYAZAN MEDICAL UNIVERISTY	3102
						Total:	**$3,333.75**		

Annex 3.D.: Equipment Provided to Ryazan Oblast Clinical Hospital

MANAGEMENT SCIENCES FOR HEALTH
RATIONAL PHARMACEUTICAL MANAGEMENT PROJECT
EQUIPMENT INVENTORY BY LOCATION
CA No. HRN-A-00-92-00059-13
5/22/98

RYAZAN OBLAST CLINICAL HOSPITAL

INVENTORY NUMBER	ITEM	BRAND NAME	DESCRIPTION	DATE PURCHASED	SERIAL No.	MODEL	COST	DISPOSITION/ LOCATION	CONTRACT
158	COMPUTER	HPVECTRA	486DX,2/60340MG,8MG, CDROM,MODEM	2/3/94	3102A01750	D3138A	1,845.00	RYAZAN HOSPITAL	3102
159	UPS	APC	ON LINE 400 VA,220V	4/3/95	5.14114E+11	AP4001	330.00	RYAZAN HOSPITAL	3102
160	PRINTER	HP	220V	1/3/95	USBB977926	HPLJ4L	655.00	RYAZAN HOSPITAL	3102
						Total:	**$2,830.00**		

ANNEX 4: RPM-RELATED CONFERENCES IN DECEMBER 1998

Annex 4.A.: Clinical Pharmacology and Rational Pharmaceutical Management Conference, Ekaterinburg

First Regional School
CLINICAL PHARMACOLOGY AND RATIONAL PHARMACEUTICAL MANAGEMENT
December 2 - 4, 1998, Ekaterinburg

Wednesday, December 2

Registration of Participants		9:00 - 9:50
Regional School Opening Ceremony		10:00 - 10:30
Role of Professional Drug Information in Rational Use of Drugs	G.V. Shashkova, Pharmedinfo	10:30 - 11:10
Role and Perspectives for the Urals Region Drug Information Center	S.V. Kolotvinov, Director of the Urals DIC	11:10 - 11:30
Drug Formulary Options	A. Savelli, MSH/RPM	11:30 - 13:00
Lunch		*13:00 - 13:45*
Drug Utilization Review Programs	A. Savelli, MSH/RPM	13:45 - 15:15
Drug Information for Health Professionals	K. Johnson, USP	15:15 - 16:45
Principles of Drug Formulary Development in Intensive Care Settings	V.A. Rudnov, Urals Medical Academy, Ekaterinburg	16:45 - 17:15
Discussion		17:15 - 17:45

Thursday, December 3

Drug Information for Patients	K. Johnson, USP	9:30 - 11:00
Methodological Approaches to Drug Formulary Development in Infectious Pediatric Ward	S.N. Kozlova, Urals Medical Academy, Ekaterinburg	11:00 - 11:30
Break		*11:30 - 11:45*
Eubiotics	N. Litusov, Center for Military-Technical Problems of Biological Defense, Ministry of Defense	11:45 - 13:00
Lunch		*13:00 - 14:00*
Clinical Pharmacology in Practical Medicine	V.G. Kukes, Research Institute of Traditional Medicine, MOH	14:00 - 15:00
Pharmacogenetics	S.B. Seredinin, Pharmacology Research Institute, MOH	15:00 - 16:00
Break		*16:00 - 16:15*
Drug Pharmacokinetics	Y.B. Belousov, Russian State Medical University, Moscow	16:15 - 17:15
Discussion		17:15 - 17:45

Friday, December 4

Chronopharmacology (Clinical Aspects)	L.P. Larionov, Urals Medical Academy, Ekaterinburg	9:30 - 10:30
Immunopharmacology	S. Kolotvinov, Urals Medical Academy DIC, Ekaterinburg	10:30 - 11:15
Break		*11:15 - 12:00*
Clinical Aspects of Use of Domestically Manufactured Immunomodulators	B.V. Pinegin, Institute of Immunology, MOH	12:00 - 13:00
Lunch		*13:00 - 14:00*
Drug Registration Problems in Russia: Regulations	V.V. Parin, RF MOH Pharmacological Committee	14:00 - 15:00
Rational Use of Antibiotics in Nosocomial Infections	A.A. Zaitsev, St. Petersburg Medical University	15:00 - 16:00
Break		16:00 - 16:15
Prospective of Antiaterosclerosys Therapy (medical, economical and ethical)	O.I. Karpov, St. Petersburg Medical University	16:15 - 17:15
Discussion, summing up		17:15 - 18:00

Annex 4.B.: Drug Formulary Implementation in Russia Conference, Moscow

Scientific-Practical Conference
DRUG FORMULARY IMPLEMENTATION IN RUSSIA
December 7 - 8, 1998, Moscow

Organized by:	Russian Federation Ministry of Health Russian Center for Pharmaceutical and Medical-Technical Information of MOH (RC Pharmedinfo) United States Agency for International Development (USAID) United States Pharmacopeial Convention (USP) Management Sciences for Health (MSH)
With support from:	Boston University Legislative Initiatives Project

Monday, December 7

OPENING CEREMONY 10:00 - 10:30

PRESENTATIONS

Drug Formulary System Development Strategies in Russia	G.V. Shashkova	10:30 - 11:00
Drug Formulary Implementation in Russia on Oblast Level	A. Savelli	11:00 - 11:30
Formulary System Development in Ryazan Oblast	A.E. Arhipov	11:30 - 12:00
Break		*12:00 - 12:20*
Provision of Unbiased Drug Information for Public Health Professionals	K. Johnson	12:20 - 12:50
Legal Basis for Pharmaceutical Information	E.A. Volskaya	12:50 - 13:10
Drug Formulary Options	A. Savelli	13:10 - 13:40
Lunch		*13:40 - 15:00*
Formulary System Implementation Impacts in Novgorod Oblast	V.A. Medik	15:00 - 15:25
Discussion, sharing experience		15:25 - 17:30
Presentation of Russian Edition of USP DI Drug Information for Health Professionals. Volume 4, Drugs Used in Gastroenterology		17:30 - 18:00

Tuesday, December 8

PRESENTATIONS

Role of Formulary System in Standardizing Pskov Oblast Public Health System	A.M. Bogatin	10:00 - 10:30
Clinical Aspects of Drug Formulary Systems	Y.B. Belousov	10:30 - 11:00
Basic Principles of Drug Formulary Development	E.A. Ushkalova	11:00 - 11:30
Experience in Formulary List Development: Antibacterials	L.S. Strachunsky D.V. Galkin	11:30 - 12:00
Break		*12:00 - 12:20*
Approaches to Formulary System Development in Moscow Oblast	S.A. Bertash	12:20 - 12:40
Experience in Drug Formulary Development in Multi-Ward Hospital	S.V. Kolobov	12:40 - 13:00

Methodological Approaches to Drug Formulary Development in Neonatology	A.L. Vertkin A.V. Soloninina A.M. Ustyugova	13:00 - 13:20
Lunch		*13:20 - 15:00*
Discussion, sharing experience		15:00 - 16:00
Closing Ceremony Summing up, presentation of certificates to participants		16:00 - 17:00

During conference breaks, the electronic version of Russian edition of USP DI, drug databases, formulary manuals, and other materials will be demonstrated in the hall.

The Conference was held at the Russian Academy of Government Service, 84 Vernadskogo, Moscow.